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RESULTS OF A JET PLUME EFFECTS TEST
ON THE ROCKWELL INTERNATIONAL INTEGRATED
SPACE SHUTTLE VEHICLE USING A VEHICLE 5
CONFIGURATION 0.02-SCALE MODEL (88-OTS)
IN THE 11 x 11 FOOT LEG OF THE NASA/AMES
RESEARCH CENTER UNITARY PLAN WIND TUNNEL (IA19)
VOLUME 1 OF 3

By

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By

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National Aeronautics and Space Administration
Houston, Texas

WIND TUNNEL TEST SPECIFICS:

Test Number ARC 11-014
NASA Series Number: IA19
Model Number: 88-OTS
Test Dates: 9-16 through 9-24-74
Occupancy Hours: 120

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M. E. Nichols, Rockwell International Space Division

ABSTRACT

Presented in this report are results of jet plume effects Test IA19 using a Vehicle 5 configuration integrated Space Shuttle Vehicle 0.02-scale model in the NASA/Ames Research Center 11 x 11-foot leg of the Unitary Plan Wind Tunnel. Testing was conducted between 16 September and 24 September 1974.

The primary objective of this test was the determination of jet plume power effects on the integrated vehicle static pressure distribution. Secondary objectives were to determine: 1) elevon, Main Propulsion System nozzle and Solid Rocket Booster nozzle effectiveness and 2) elevon hinge moments. MPS and SRB nozzle conditions were set according to calibration data obtained at Rockwell International/Rocketdyne Division's Rocket Nozzle Test Facility.

Mach numbers tested were at 0.90, 1.10, 1.25 and 1.40. Angle of attack was varied from -8° to $+8^{\circ}$ while the angle of sideslip was varied from -4° to $+4^{\circ}$. Reynolds number was changed with Mach number, as shown in Table 1.

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PLOTTED COEFFICIENTS SCHEDULE:

- A) CHEI, CHEO, CABO, CABS, CABT versus ALPHA
- B) CHEI, CHEO, CABO, CABS, CABT versus BETA
- C) DCHEI, DCHEO versus ALPHA
- D) DCHEI, DCHEO versus BETA
- E) CHEI, CHEO, CABO, CABS, CABT versus MACH
- F) CP versus X/L
- G) DELCP versus X/L
- H) CP versus X/C
- I) DELCP versus X/C
- J) CP versus PHI
- K) DELCP versus PHI

INTRODUCTION

A vehicle 5 configuration 0.02-scale Integrated Space Shuttle Model was tested in the ARC Unitary Plan Wind Tunnel. The testing was conducted in the 11 x 11-foot section between 16 September and 24 September 1974. Cold flow through the Main Propulsion System (MPS) nozzle and the Solid Rocket Booster (SRB) nozzle was used to simulate jet plume effects. This test was designated IA19.

This report for the IA19 test contains a tabular listing of all source force and pressure data. Selected force plots that illustrate power setting effects on the integrated vehicle static axial pressure distribution and elevon hinge moment are included. These plots also show elevon control deflection effectiveness and the effect of gimbal control deflection. Pressure plots that illustrate power setting effects on the local pressure distribution for the Orbiter, External Tank (ET) and SRB are also included. This information is arranged in the following manner:

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The pressure data were recorded for each component. The fourth character in each dataset identifier (i.e., REUBXX, B for fuselage) represents the individual component. The following list indicates the symbol for each component.

SYMBOL	COMPONENT
B	Orbiter fuselage
E	Upper body flap surface
F	Lower body flap surface
G	Orbiter base
I	External tank base
K	SRB base
R	Upper wing surface
S	Solid Rocket Booster (SRB)
T	External tank
V	Vertical tail surface
W	Lower wing surface

NOMENCLATURE
General

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
a		speed of sound; m/sec, ft/sec
C _p	CP	pressure coefficient; $(p_1 - p_\infty)/q$
M	MACH	Mach number; V/a
p		pressure; N/m ² , psf
q	Q(NSM) Q(PSF)	dynamic pressure; $1/2\rho V^2$, N/m ² , psf
RN/L	RN/L	unit Reynolds number; per m, per ft
V		velocity; m/sec, ft/sec
α	ALPHA	angle of attack, degrees
β	BETA	angle of sideslip, degrees
ψ	PSI	angle of yaw, degrees
ϕ	PHI	angle of roll, degrees
ρ		mass density; kg/m ³ , slugs/ft ³

Reference & C.G. Definitions

A _b		base area; m ² , ft ²
b	BREF	wing span or reference span; m, ft
c.g.		center of gravity
$\frac{l}{c}$ _{REF}	LREF	reference length or wing mean aerodynamic chord; m, ft
S	SREF	wing area or reference area; m ² , ft ²
	MRP	moment reference point
	XMRP	moment reference point on X axis
	YMRP	moment reference point on Y axis
	ZMRP	moment reference point on Z axis

SUBSCRIPTS

b	base
l	local
s	static conditions
t	total conditions
∞	free stream

NOMENCLATURE (Continued)

Body-Axis System

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
C_N	CN	normal-force coefficient; $\frac{\text{normal force}}{qS}$
C_A	CA	axial-force coefficient; $\frac{\text{axial force}}{qS}$
C_Y	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
C_{A_b}	CAB	base-force coefficient; $\frac{\text{base force}}{qS}$ $-A_b(p_b - p_\infty)/qS$
C_{A_f}	CAF	forebody axial force coefficient, $C_A - C_{A_b}$
C_m	CLM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS l_{REF}}$
C_n	CYN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS b}$
C_l	CBL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS b}$

Stability-Axis System

C_L	CL	lift coefficient; $\frac{\text{lift}}{qS}$
C_D	CD	drag coefficient; $\frac{\text{drag}}{qS}$
C_{D_b}	CDB	base-drag coefficient; $\frac{\text{base drag}}{qS}$
C_{D_f}	CDF	forebody drag coefficient; $C_D - C_{D_b}$
C_Y	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
C_m	CLM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS l_{REF}}$
C_n	CLN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS b}$
C_l	CSL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS b}$
L/D	L/D	lift-to-drag ratio; C_L/C_D
L/D_f	L/DF	lift to forebody drag ratio; C_L/C_{D_f}

NOMENCLATURE (Continued)
Additions to Standard List

<u>Symbol</u>	<u>SADSAC Symbol</u>	<u>Definition</u>
A_i		model base area, denoted by associated tap number subscript, ft ²
C_{ABO}	CABO	Orbiter base axial force coefficient
C_{ABS}	CABS	SRB base axial force coefficient
C_{ABT}	CABT	ET base axial force coefficient
\bar{c}_E		M. A. C. of total elevon panel (inbd plus outbd), in.
CH_{EI}	CHEI	hinge moment coefficient for inboard elevon
CH_{EO}	CHEO	hinge moment coefficient for outboard elevon
CH_{ET}	CHET	total elevon hinge moment coefficient
Cp_i		model pressure coefficient, denoted by a subscript i
CPR_j	PR	ratio of prototype nozzle chamber pressure to freestream static pressure, denoted by a subscript j
EPR_j		ratio of nozzle exit pressure to freestream static pressure, denoted by a subscript j
HM_{EI}		hinge moment of inboard elevon, in-lbs
HM_{EO}		hinge moment of outboard elevon, in-lbs
Pc_j		nozzle chamber pressure, denoted by a nozzle number subscript, psia
Pe_j		nozzle exit pressure, denoted by a nozzle number subscript, psia
S_E		total elevon planform area for one wing panel, ft ²

NOMENCLATURE (Continued)

l	L	length of body, in
$b/2$	B	wing semi-span, in
b_v	BV	vertical tail span, in
x	X	distance from component nose, in
y	Y	lateral distance from centerline, in
z	Z	vertical distance measured from W. L. 500 (vertical tail reference root chord), in
c	C	local wing chord, in
c_v	CV	local vertical tail chord, in
x/l	X/L	longitudinal position/body length
x/c	X/C	local chordwise position/local wing chord length
x/c	X/CV	local chordwise position/local vertical tail chord length
n	2Y/B	local spanwise position/wing semi-span
n_v	Z/BV	local spanwise position/vertical tail span
ΔC_p	DELCP	pressure coefficient increment due to power/plume effect, power on - power off
ΔCH_{EI}	DCHEI	hinge moment coefficient increment for inboard elevon due to power/plume effect, power on-power off
ΔCH_{EO}	DCHEO	hinge moment coefficient increment for outboard elevon due to power/plume effect, power on-power off
	OFF LOW NOM HI	MPS and SRB power settings, see Tabulated Force Data for specific values of pressure ratio

NOMENCLATURE (Concluded)

$T_{T\text{MPS}}$

MPS air supply total temperature, °R

$T_{T\text{SRB}}$

SRB air supply total temperature, °R

Angles:

α_{Nj}

pitch-angle of nozzle centerline in a plane parallel to the plane of symmetry, degrees

ψ_{Nj}

yaw-angle of nozzle centerline in a plane parallel to a waterline plane, degrees

γ_{Nj}

pitch-angle of nozzle centerline in a plane which yaws with the nozzle, degrees

Subscripts:

E	ELV	elevon
i		surface tap number
j		nozzle number
I	IB	inboard
O	OB	outboard
N		nozzle
1		top MPS nozzle
2		L. H. MPS nozzle
3		R. H. MPS nozzle
4		L. H. SRB nozzle
5		R. H. SRB nozzle
T		total condition

DATA REMARKS

Good data confidence can be attributed to Test IA19 on the basis of model and instrumentation performance throughout the test program.

Hinge-moment data, for the inboard and outboard elevons, should be good in all cases presented, as no particular anomalies occurred.

Surface pressure-tap data is also trustworthy, as very few taps consistently indicated any plugged or leaking conditions during repeated Scanivalve-system checks.

Some scatter and error, on the order of 2 percent of the maxima, is to be expected in the measured and computed SRB nozzle chamber-pressure parameters. Pressure variations during the runs account for some scatter, and a correction term had to be applied to precalibrated values when the pressure probes for the SRB nozzles failed during the test.

CONFIGURATIONS INVESTIGATED

The 88-OTS model was a 0.02-scale representation of the Launch-Configuration Space Shuttle Vehicle 5, with Solid Rocket Motor and Main Propulsion System plume-simulation capability.

Various elevon settings and nozzle gimbal angles were set during the test to determine incremental effects of control deflections, as shown in the run-schedule (collation) sheets, Table 2.

Nozzle chamber-total pressures were controllable for appropriate plume-shape simulations. The nozzles were precalibrated by Rockwell.

The model was instrumented as follows:

- 1) 362 model surface pressure taps (See Table IV) monitored by 11 scavivalve modules in 3 gangs.
- 2) 5 nozzle chamber-total pressure probes monitored by large capacity transducers.
- 3) 5 nozzle exit-static pressure taps monitored on separate transducers.
- 4) Inboard and outboard elevon hinge-moment strain gauges on the left wing.
- 5) Total-temperature thermocouple probes in the SRM and MPS air-supply systems.
- 6) Pendulum dangleometer mounted in the ET for angle-of-attack measurements.

The following nomenclature was used to designate model components:

<u>Component</u>	<u>Defintion</u>
AT ₂₈	Attach structure
AT ₃₁	Attach structure
AT ₃₂	Attach structure

CONFIGURATIONS INVESTIGATED (Continued)

B ₆₂	Body
C ₁₂	Canopy
E ₅₂	Elevon
F ₁₀	Body flap
FL ₁₀	Feedline
FL ₁₁	Feedline
FR ₁₀	Aft attach cross beam
M ₁₆	OMS pod
N ₈₇	MPS nozzles
N ₈₈	SRB nozzle
N ₈₉	OMS nozzles
PS ₁₁	SRB protuberances
PS ₁₂	SRB protuberances
PS ₁₃	SRB protuberances
PS ₁₄	SRB protuberances
PS ₁₇	SRB protuberances
PS ₁₈	SRB protuberances
PS ₁₉	SRB protuberances
PT ₁₂	ET protuberances

CONFIGURATIONS INVESTIGATED (Concluded)

PT ₂₂	ET protuberances
PT ₂₃	ET protuberances
PT ₂₄	ET protuberances
PT ₂₅	ET protuberances
PT ₂₆	ET protuberances
PT ₂₇	ET protuberances
R ₅	Rudder
S ₂₂	Solid rocket booster
T ₂₈	External tank
V ₈	Vertical tail
W ₁₂₇	Wing

TEST FACILITY DESCRIPTION

The Ames Research Center Unitary Plan 11- by 11-foot Transonic Wind Tunnel is a closed-circuit, air-medium, variable-density facility capable of attaining Mach numbers from 0.6 to 1.4 at Reynolds numbers from $1.7 \times 10^6/\text{ft}$ to $9.4 \times 10^6/\text{ft}$. The test section is 22 feet long, and models are installed on internal strain-gauge balances mounted to sting-type support systems.

Shadowgraph and Schlieren photographic equipment is available, and pressure transducer instrumentation is provided.

Tunnel operating temperature is 580°R. Extended high Reynolds number runs are restricted by power availability.

DATA REDUCTION

The data reduction procedures for Test IA19 involve calculation of: operating nozzle chamber-total and exit-static pressures and pressure ratios for the SRB and MPS nozzles, elevon (inboard and outboard) panel hinge moments and hinge-moment coefficients, and pressure coefficients for the 362 static taps on the Orbiter, External Tank, and Solid Rocket Boosters.

Equations used for reduction of data were as follows:

a) Elevon hinge moment:

$$C_{H_{EI}} = \frac{HM_{EI}}{q S_E \bar{c}_E}$$

$$CH_{EO} = \frac{HM_{EO}}{q S_E \bar{c}_E}$$

$$C_{H_{ET}} = CH_{EI} + CH_{EO}$$

b) Nozzle pressure parameters:

$$CPR_j = \frac{P_{c_j}}{P_\infty} \quad j = 1+5$$

$$EPR_j = \frac{P_{e_j}}{P_\infty} \quad j = 1+5$$

c) Model pressure coefficients:

$$Cp_i = \frac{P_i - P_\infty}{q}$$

i = 101 - 172 Top of Rt. wing

i = 201 - 265 Bottom of Rt. wing

DATA REDUCTION (Continued)

i = 301 - 389 Orbiter fuselage

i = 401 - 439 Rt. side of vertical tail

i = 501 - 573 External tank

i = 601 - 624 Rt. SRB

d) Base pressure coefficients:

$$C_{A_{BS}} = \sum_{i=621}^{624} \frac{C_{p_i} A_i}{S}$$

$$C_{A_{BO}} = \sum_{i=369}^{381} \frac{C_{p_i} A_i}{S}$$

$$C_{A_{BT}} = \sum_{i=541}^{573} \frac{C_{p_i} A_i}{S}$$

The following reference dimensions and constants were used in the reduction of data:

Base Areas
Model Scale, Ft²

$$A_{369} = 0.0000$$

$$A_{370} = 0.0095$$

$$A_{371} = 0.0095$$

$$A_{372} = 0.0074$$

$$A_{373} = 0.0074$$

$$A_{374} = 0.0081$$

$$A_{375} = 0.0049$$

$$A_{376} = 0.0024$$

$$A_{377} = 0.0049$$

Model Scale, Ft²

$$A_{541} = 0.0066$$

$$A_{542} = 0.0008$$

$$A_{543} = 0.0008$$

$$A_{544} = 0.0008$$

$$A_{545} = 0.0008$$

$$A_{546} = 0.0012$$

$$A_{547} = 0.0016$$

$$A_{548} = 0.0016$$

$$A_{549} = 0.0016$$

Model Scale, Ft²

$$A_{558} = 0.0089$$

$$A_{559} = 0.0089$$

$$A_{560} = 0.0089$$

$$A_{561} = 0.0089$$

$$A_{562} = 0.0133$$

$$A_{563} = 0.0177$$

$$A_{564} = 0.0177$$

$$A_{565} = 0.0177$$

$$A_{566} = 0.0177$$

DATA REDUCTION (Concluded)

$$A_{378} = 0.0081$$

$$A_{379} = 0.0095$$

$$A_{380} = 0.0060$$

$$A_{381} = 0.0095$$

$$A_{621} = 0.0119$$

$$A_{622} = 0.0119$$

$$A_{623} = 0.0119$$

$$A_{624} = 0.0119$$

$$A_{550} = 0.0016$$

$$A_{551} = 0.0016$$

$$A_{552} = 0.0016$$

$$A_{553} = 0.0016$$

$$A_{554} = 0.0008$$

$$A_{555} = 0.0008$$

$$A_{556} = 0.0008$$

$$A_{557} = 0.0008$$

$$A_{567} = 0.0177$$

$$A_{568} = 0.0177$$

$$A_{569} = 0.0177$$

$$A_{570} = 0.0133$$

$$A_{571} = 0.0089$$

$$A_{572} = 0.0089$$

$$A_{573} = 0.0089$$

Reference Dimensions

\bar{c}_E

S_E

S

Full Scale

90.7 in.

210 ft²

2690 ft²

Model Scale

1.814 in.

0.0840 ft²

1.076 ft²

TABLE I.

[illegible]

TABLE II.

TEST: IA19 ARC 11-97-014

DATA SET / RUN NUMBER COLLATION SUMMARY

DATE: 2/24/74

DATA SET IDENTIFIER	CONFIGURATION	SCHD.	CONTROL DEFLECTION				NO. OF RUNS	MACH NUMBERS - OR ALTERNATE INDEPENDENT VARIABLE								α																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
			α	β	SER	SER		MFE	MACH	-8	-4	0	4	8	S_1		S_2	S_3																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
REU001	OTS (WITH STRUT)	B	8	4	0	OFF		OFF	0.9																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				

TEST: IA19

ARC 11, 97-019

DATE: 9/24/74

DATA SET/RUN NUMBER COLLATION SUMMARY

DATA SET IDENTIFIER	CONFIGURATION	SCHD. α	CONTROL DEFLECTION				NO. OF RUNS	MACH NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE) α				TEST RUN NUMBERS					
			SE1	SE2	SR	SFB		MPS	MACH	-8	-4	0	4	8	12	16	
REU01N	OTS (WITH STRUT)	B	8	4	0	H1		H1	0.9		66	37	68		U16	U10	U10
18									1.1		40	41	42				
19									1.25		18	19	20				
20									1.4		62	63	64				
21	OTS (WITH STRUT)			0		OFF		OFF	1.4		72	73	74				
22						NOM		NOM	1.4		76	77	78				
23			0			OFF		OFF	0.9		100	101	102				
24									1.1		94	95	96				
25									1.25		88	89	90				
26									1.4		82	83	84				
27						NOM		NOM	0.9		97	98	99				
28									1.1		91	92	93				
29									1.25		85	86	87				
30									1.4		79	80	81				
31						OFF		OFF	0.9		106	107	108		U17.12	U17	
32									1.1		124	125	126				
33									1.25		112	113	114				
34									1.4		118	119	120				

1

7

13

19

25

31

37

43

49

55

61

67

73

75.76

SRBPR

MPSR

CHE0

CAB0

CABT

CABS

CS

MACH

ALPHA

BETA

α OR β

SCHEDULES

COEFFICIENTS

IDVAR (1)

IDVAR (2)

IDV

TABLE II. - Continued.

TEST: IA 19										ARC 11, 97-014										DATE: 9/24/74									
DATA SET / RUN NUMBER COLLATION SUMMARY																													
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		CONTROL DEFLECTION			NO. OF RUNS	TEST NUMBERS (OR ALTERNATE INDEPENDENT VARIABLE)								Δ													
		α	β	SR	SRB	SRB		MPS	MACH	-B	-4	0	4	8	Δ_1		Δ_2	Δ_3											
REV 035	OTS (WITH STRUT)	B	0	0	0	NOM		NOM	0.9		103	104	105				118.1	117.1	116.7										
36									1.1		121	122	123																
37									1.25		109	110	111																
38									1.4		115	116	117																
39	OTS (NO STRUT)					OFF		OFF	0.9	161	162	163	164	165	116	110	110												
40									1.1	151	152	153	154	155															
41									1.25	138	139	140	141	142															
42									1.4	127	128	130	131	132															
43						NOM		OFF	0.9	166	167	168	169	170															
44									1.1	156	157	158	159	160															
45									1.25	143	144	145	146	147															
46									1.4	132	134	135	136	137															
47				B		OFF		OFF	1.4	174	174	172	173																
48				B		NOM		OFF	1.4	175	175	176	177																
49				B	4	OFF		OFF	0.9	196	197	198																	
50									1.1	190	191	192																	
51									1.25	184	185	186																	
52									1.4	178	179	180																	
7	13	19	25	31	37	43	49	55	61	67	75	76																	
COEFFICIENTS													IDVAR (1) IDVAR (2) NDV																
SCHEDULES																													

TABLE II. - Concluded.

[illegible]

TABLE III MODEL DIMENSIONAL DATA

MODEL COMPONENT: ATTACH STRUCTURE - AT₂₈GENERAL DESCRIPTION: Rear orbiter to ET attach structure (LH and RH)
(2 members)

MODEL SCALE: 0.020

DRAWING NO.: VC78-000002

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Member #1	X _O	1317.00	26.34
Attach Stations	Y _O	- 96.50 (LH)	- 1.93 (LH)
		96.50 (RH)	1.93 (RH)
	Z _O	267.50	5.35
	X _T	2058.00	41.6
	Y _T	- 125.68 (LH)	- 2.5136 (LH)
		125.68 (RH)	2.5136 (RH)
	Z _T	515.5	10.31
Member #2	X _O	1317.00	26.34
Attach Stations	Y _O	- 96.50 (LH)	- 1.93 (LH)
		96.50 (RH)	1.93 (RH)
	Z _O	267.50	5.35
	X _T	1872.00	37.44
	Y _T	- 125.68 (LH)	- 2.5136 (LH)
		125.68 (RH)	2.5136 (RH)
	Z _T	504.5	10.09
Member #1 Dia.		11.5	0.230
Member #2 Dia.		15.5	0.31

TABLE III (CONT'D)

MODEL COMPONENT: ATTACH STRUCTURE - AT₃₁

GENERAL DESCRIPTION: Rear ET to SRB attach structure (LH & RH)

(3 members)

MODEL SCALE: 0.020

DRAWING NO.: VL78-000063, VL78-000062B, VL78-000066

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Member #1	X _T	2058.00	41.16
	Y _T	- 171.50 (LH)	- 3.43
		171.50 (RH)	3.43
	Z _T	457.00	9.14
	X _S	1511.00	30.22
	Y _S	53.24	1.0648
	Z _S	57.00	1.14
Member #2	X _T	2058.00	41.16
	Y _T	- 163.85	- 3.277
	Z _T	449.81	8.996
	X _S	1511.00	30.22
	Y _S	76.56	1.5312
	Z _S	15.73	0.3146
Member #3	X _T	2058.00	41.16
	Y _T	- 161.72	- 3.2344
	Z _T	343.00	6.86
	X _S	1511.00	30.22
	Y _S	53.24	1.0648
	Z _S	- 57.00	- 1.14

TABLE III (CONT'D)

MODEL COMPONENT: ATTACH STRUCTURE - AT₃₂

GENERAL DESCRIPTION: Forward orbiter/ET attach structure (2 member structure)

MODEL SCALE: 0.020

DRAWING NUMBER: VC78-000002

DIMENSIONS:

		FULL SCALE	MODEL SCALE
Member #1	X _O	388.15	7.763
	Y _O	0.0	0.0
	Z _O	LWR ML	LWR ML
	X _T	1129.9	22.598
	Y _T	46.50	0.930
	Z _T	562.58	11.252
Member #2	X _O	388.15	7.763
	Y _O	0	0.00
	Z _O	LWR ML	LWR ML
	X _T	1129.9	22.598
	Y _T	- 46.50	- 0.930
	Z _T	562.58	11.252
Diameter of members (In.):		6.0	0.120

TABLE III (CONT'D)

MODEL COMPONENT: BODY - B₆₂GENERAL DESCRIPTION: Configuration 140C fuselage, MCR 200-B4. Similar to 140A/B except with revised aft body.MODEL SCALE: 0.020DRAWING NUMBER: VI.70-000140C, 00200B, -00202C, -000203, -000205A

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length (OML: Fwd Sta $X_0 = 235$), In.	<u>1293.3</u>	<u>25.866</u>
Max. Width (@ $X_0 = 1528.3$), In.	<u>264.0</u>	<u>5.280</u>
Max. Depth (@ $X_0 = 1464$), In.	<u>250.0</u>	<u>5.000</u>
Fineness Ratio	<u>4.899</u>	<u>4.899</u>
Area - Ft ²		
Max. Cross-Sectional	<u>340.885</u>	<u>0.136354</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III (CONT'D)

MODEL COMPONENT: CANOPY - C₁₂GENERAL DESCRIPTION: Configuration 140C orbiter canopy used withBody - B₆₂MODEL SCALE: 0.020DRAWING NUMBER VL70-000140C, -000202B, -000204

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length ($X_0 = 434.643$ to 516), In.	<u>143.357</u>	<u>2.867</u>
Max Width (@ $X_0 = 513.127$), In.	<u>152.412</u>	<u>3.048</u>
Max Depth (@ $Z_0 = 501$ to 449.39), In.	<u>51.61</u>	<u>1.032</u>
Fineness Ratio	<u> </u>	<u> </u>
Area		
Max Cross-Sectional	<u> </u>	<u> </u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III (CONT'D)

MODEL COMPONENT ELEVON - E₅₂

GENERAL DESCRIPTION Elevon for Configuration 140C. Hingeline
at X₀ = 1387, elevon split line X_s = 312.5, 6.0" gaps, beveled edges, and
centerbodies.

MODEL SCALE: 0.020

DRAWING NUMBER VL70-000140C, -006080, -006092, S3A-01260

DIMENSIONS (Data for one side)	FULL SCALE	MODEL SCALE
Area - Ft ²	<u>210.0</u>	<u>0.0820</u>
Span (equivalent), In. (Y ₀ =119.99), In.	<u>349.2</u>	<u>6.984</u>
Inb'd equivalent chord, In. (Y ₀ = 469.19)	<u>118.0</u>	<u>2.360</u>
Outb'd equivalent chord, In.	<u>55.19</u>	<u>1.1038</u>
Ratio movable surface chord/ total surface chord	<u> </u>	<u> </u>
At Inb'd equiv. chord	<u>0.2096</u>	<u>0.2096</u>
At Outb'd equiv. chord	<u>0.4004</u>	<u>0.4004</u>
Sweep Back Angles, degrees	<u> </u>	<u> </u>
Leading Edge	<u>0.0</u>	<u>0.0</u>
Trailing Edge	<u>- 10.055</u>	<u>- 10.055</u>
Hingeline (Product of Area & c̄)	<u>0.00</u>	<u>0.00</u>
Area Moment (Normal to hingeline, Ft ³)	<u>1587.25</u>	<u>0.012698</u>
Mean Aerodynamic Chord, In.	<u>90.7</u>	<u>1.814</u>
Hingeline dihedral (origin at Z ₀ = 261.3509), deg.	<u>5.228986</u>	<u>5.228986</u>

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TABLE III (CONT'D)

MODEL COMPONENT: BODY FLAP - F₁₀GENERAL DESCRIPTION: Configuration 140C Body Flap. Hingeline located
at $X_0 = 1532$, $Z_0 = 287.00$ MODEL SCALE: 0.020MODEL DRAWING: SS-401261

DRAWING NUMBER

VL70-000140CDIMENSION:FULL SCALEMODEL SCALELength ($X_0 = 1525.5$ to 1613), In.87.501.750Max Width (@ L.E. $X_0 = 1525.5$), In.256.005.120Max Depth (@ $X_0 = 1532$), In.19.7980.39596

Fineness Ratio

Area - Ft²

Max Cross-Sectional

35.1960.0140784

Planform

135.000.0540

Wetted

Base ($X_0 = 1613$)4.890.001956

TABLE III (CONT'D)

MODEL COMPONENT: FEEDLINE FL₁₀GENERAL DESCRIPTION: LH₂ feedline on upper left-hand side of T₂₈

MODEL SCALE: 0.020

DRAWING NO.: VL78-000063, VL78-000062B

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at:	X _T	2071.5	41.430
	Y _T	- 70.0	- 1.400
	Z _T	573.934	11.479
Trailing edge at:	X _T	2081.8	41.636
	Y _T	- 70.00	- 1.400
	Z _T	584.059	11.682
Diameter of line (17.0 I.D.)		18.160	0.3632

TABLE III (CONT'D)

MODEL COMPONENT: FEEDLINE - FL₁₁

GENERAL DESCRIPTION: LO₂ feedline on upper right-hand of T₂₈.

MODEL SCALE: 0.020

DRAWING NUMBER: VL78-000063, VL78-000062B

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at:	X _T	1000.667	20.013
	Y _T	70.03	1.400
	Z _T	150.519	3.010
Trailing edge at:	X _T	2071.5	41.43
	Y _T	70.00	1.400
	Z _T	573.934	11.479
Diameter of line (17.0 I.D.)		18.16 O.D.	0.3632

TABLE III (CONT'D)

MODEL COMPONENT: FAIRING - FR₁₀

GENERAL DESCRIPTION: Aft attach cross beam

MODEL SCALE: 0.020

DRAWING NO.: VL78-000063, VL78-000062B, Martin Marietta 82600207000

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at	X_T	2052.0	41.04
Length		193.00	3.86
Width		15.00	0.30

TABLE III (CONT'D)

MODEL COMPONENT: OMS POD - M₁₆GENERAL DESCRIPTION: Configuration 140C OMS PodMODEL SCALE: 0.020DRAWING NUMBER VL70-008401, VL70-008410 (as of 5/16/75)

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCAL</u>
Length (OMS Fwd Sta. $X_0=1310.5$), In.	<u>258.50</u>	<u>5.170</u>
Max Width (@ $X_0 = 1511$), In.	<u>136.80</u>	<u>2.736</u>
Max Depth (@ $X_0 = 1511$), In.	<u>74.70</u>	<u>1.494</u>
Fineness Ratio	<u>2.484</u>	<u>2.484</u>
Area - Ft ²		
Max Cross-Sectional	<u>58.864</u>	<u>0.02355</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III (CONT'D)

MODEL COMPONENT: MPS NOZZLES - N₈₇GENERAL DESCRIPTION: Flow-through MPS nozzles with gimbal capability.There is a metric shroud around each nozzle for measuring hinge moments about the gimbal point.MODEL SCALE: 0.020DRAWING NUMBER: SS-A01261

DIMENSIONS:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
MACH NO. (0.6, 0.9, 1.1, 1.25, 1.4)		
Length - In.		
Gimbal Point to Exit Plane	<u>157.0</u>	<u>2.14</u>
Throat to Exit Plane	<u>181.55</u>	<u>3.6311</u>
Diameter - In.		
Exit	<u>90.435</u>	<u>1.8087</u>
Throat	<u>23.3502</u>	<u>0.467004</u>
Inlet		
Area - ft ²		
Exit	<u>44.607</u>	<u>0.01784</u>
Throat	<u>2.974</u>	<u>0.0011895</u>
Gimbal Point (Station) - In.		
Upper Nozzle		
X _o	<u>1445</u>	<u>28.09</u>
Y _o	<u>0</u>	<u>0</u>
Z _o	<u>443</u>	<u>8.86</u>
Lower Nozzles		
X _o	<u>1468.17</u>	<u>29.3634</u>
Y _o	<u>± 53.0</u>	<u>1.06</u>
Z _o	<u>252.04</u>	<u>5.0528</u>
Null Position - Deg.		
Upper Nozzle		
Pitch	<u>10°</u>	<u>10°</u>
Yaw	<u>0°</u>	<u>0°</u>
Lower Nozzle		
Pitch	<u>10°</u>	<u>10°</u>
Yaw	<u>OUTB'D 3°30'</u>	<u>OUTB'D 3°30'</u>

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TABLE III (CONT'D)

MODEL COMPONENT: SRB NOZZLES - N₈₈GENERAL DESCRIPTION: Flow through SRB nozzle with gimbal capability.

Simulator $\epsilon = 7.0$ prototype. There is a metric shroud around each nozzle
for measuring hinge moments about the gimbal point.

MODEL SCALE: 0.020DRAWING NUMBER: SS-A01262

DIMENSIONS:	FULL SCALE	MODEL SCALE
MACH NO.		
Length - In.		
Gimbal Point to Exit Plane	<u>86.8</u>	<u>1.736</u>
Throat to Exit Plane	<u>112.135</u>	<u>2.2427</u>
Diameter - In.		
Exit	<u>144.290</u>	<u>2.88580</u>
Throat	<u>64.53</u>	<u>1.2906</u>
Inlet		
Area - ft ²		
Exit	<u>356.738</u>	<u>0.14269</u>
Throat	<u>22.712</u>	<u>0.090847</u>
Gimbal Point (Station) - In.		
Upper Nozzle		
X _B	<u>1902.5</u>	<u>38.052</u>
Y _B	<u>250.5</u>	<u>5.01</u>
Z _B		
Lower Nozzles		
X		
Y		
Z		
Null Position - Deg.		
Upper Nozzle		
Pitch	<u>0</u>	<u>0</u>
Yaw	<u>0</u>	<u>0</u>
Lower Nozzle		
Pitch		
Yaw		

TABLE III (CONT'D)

MODEL COMPONENT: NOZZLES - N₃₉GENERAL DESCRIPTION: OMS nozzle in stowed position which is outboard 8° and down 7°
from null position. Use with M₁₆.MODEL SCALE = 0.020DRAWING NO. S3-A01288

<u>DIMENSIONS</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Mach No. _____		
Length ~ in.		
Gimbal Point to Exit Plane	<u>56.0</u>	<u>1.120</u>
Throat to Exit Plane	<u>--</u>	<u>--</u>
Diameter ~ in.		
Exit (O.D.)	<u>50.0</u>	<u>1.0</u>
Throat	<u> </u>	<u> </u>
Inlet	<u> </u>	<u> </u>
Area ~ ft ² .		
Exit	<u> </u>	<u> </u>
Throat	<u> </u>	<u> </u>
Gimbal Point (station) ~ in.		
X ₀	<u>1518.00</u>	<u>30.35</u>
Y ₀	<u>88.0</u>	<u>1.76</u>
Z ₀	<u>492.0</u>	<u>9.84</u>
Null Position ~ deg.		
Pitch	<u>15049'</u>	<u>15049'</u>
Yaw	<u>6°30'</u>	<u>6°30'</u>

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TABLE III (CONT'D)

MODEL COMPONENT: ELECTRICAL TUNNEL - PS₁₁

GENERAL DESCRIPTION: Tunnel running longitudinally on the SRB for electrical vires.

MODEL SCALE: 0.020

DRAWING NO.: VC77-000002

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Width, In.	5.70	0.114
Radius, In.	5.70	0.114
Height, In.	4.70	0.094
Leading edge at Sta.	494.70	9.894
L.E. sweepback angle, degrees	30.0	30.0

TABLE III (CONT'D)

MODEL COMPONENT: CIRCUMFERENTIAL STIFFENER- PS₁₂

GENERAL DESCRIPTION: Four ring stiffeners located at the aft end of the solid rocket boosters. The stiffener is a curved I-beam.

DRAWING NO.: VC77-000002

MODEL SCALE: 0.020

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Height, In.		2.5	0.05
Length, In.		2.0	0.04
Locations:	$X_B =$	1602.00	32.04
		1644.00	32.88
		1729.00	34.58
		1771.00	35.42

TABLE III (CONT'D)

MODEL COMPONENT: CIRCUMFERENTIAL STIFFENER - PS₁₃

GENERAL DESCRIPTION: Ring stiffener located at the point where the skirt flares. The stiffener is I-beam.

MODEL SCALE: 0.020

DRAWING NO.: VC77-000002

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Height, In.		6.50	0.130
Length, In.		4.00	0.08
Location centerline	$X_B =$	1833.70	36.674

TABLE III (CONT'D)

MODEL COMPONENT: SOLID ROCKET BOOSTER - EXTERNAL TANK ATTACH - PS₁₄

GENERAL DESCRIPTION: Two-ring stiffeners located at aft end of solid rocket boosters. The stiffener is curved I-beam.

MODEL SCALE: 0.020

DRAWING NO.: VC77-000002

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Height, In.	8.00	0.160
Length, In.	3.00	0.060
Location centerline	X _B 1511.00	30.22

TABLE III (CONT'D)

MODEL COMPONENT: SRB PROTUBERANCE - PS₁₇

GENERAL DESCRIPTION: Electrical connecting box mounted on top of PS₁₄.

MODEL SCALE: 0.020

DRAWING NO.: NONE

DIMENSIONS:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Width, In.	60.0	1.20
Depth, In.	17.5	0.35
Centerline of box located 15° inboard from vertical plane of symmetry.		

TABLE III (CONT'D)

MODEL COMPONENT: SRB PROTUBERANCE - PS₁₈

GENERAL DESCRIPTION: Tie-down fixtures mounted on the aft skirt. Total of four mounted 30° on both sides of vertical plane of symmetry.

MODEL SCALE: 0.020

DRAWING NO.: NONE

DIMENSIONS:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Sta. of leading edge (X_B)	1861.2	37.224
Sta. of T.E. (X_B)	1925.2	38.504
Max. width, In.	14.2	0.284
Height, in.	8.3	0.166

TABLE III (CONT'D)

MODEL COMPONENT: SRB PROTUBERANCES - PS₁₉

GENERAL DESCRIPTION: Aft separation motor pod mounted on aft skirt at 20°
inboard from top vertical plane of symmetry.

MODEL SCALE: 0.020

DRAWING NO.: NONE

DIMENSIONS:

	FULL SCALE	MODEL SCALE
Width, In.	14.0	0.28
Height, In. (at Trailing edge)	19.0	0.38
Sweepback of leading edge, deg.	15.0	15.0

TABLE III (CONT'D)

MODEL COMPONENT: ET PROTUBERANCE - PT₁₂

GENERAL DESCRIPTION: Lightning rod attached to ET nose.

MODEL SCALE: 0.020

DRAWING NO.: VL78-000068A

DIMENSIONS:

	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length	30.90	0.618
Diameter, In.	3.20	0.074

TABLE III (CONT'D)

MODEL COMPONENT: ELECTRICAL CONDUIT PT₂₂GENERAL DESCRIPTION: Left-hand electrical conduit line on T₂₈.

MODEL SCALE: 0.020

DRAWING NO.: VL78-000063, VL78-000062B

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at:	X _T	1084.333	21.687
	Y _T	- 99.591	- 1.992
	Z _T	- 139.620	- 2.792
Trailing edge at:	X _T	2058.000	41.16
	Y _T	- 99.591	- 1.992
	Z _T	- 139.620	- 2.792
Conduit size:		2.0 x 6.0	0.04 x 0.12
Centerline of line located radially at $\phi = 35.5^\circ$			

TABLE III (CONT'D)

MODEL COMPONENT: LO₂ RECIRCULATION LINE - PT₂₃GENERAL DESCRIPTION: LO₂ recirculation line on right-hand upper side of T₂₈.

MODEL SCALE: 0.020

DRAWING NO.: VL78-000063, VL78-000062B, Martin Marietta 82600207000

DIMENSIONS:		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at:	X _T	1040.667	20.813
	Y _T	94.169	1.883
	Z _T	540.934	10.819
Trailing edge at:	X _T	2062.920	41.258
	Y _T	70.000	1.400
	Z _T	573.934	11.479
Diameter of Line		4.0	0.08

Centerline of lines located radially at $\phi = 33^{\circ}45'$
 (Right of TDC looking forward).

TABLE III (CONT'D)

MODEL COMPONENT: LH_2 PRESSURE LINE - PT₂₄

GENERAL DESCRIPTION: LH_2 pressure line on T₂₈.

MODEL SCALE: 0.020

DRAWING NO.: VL78-000063, VL78-000062B, Martin Marietta 82600207000

DIMENSIONS:		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at:	X_T	1040.667	20.813
	Y_T	- 94.169	- 1.884
	Z_T	540.934	10.819
Trailing edge at:	X_T	2062.920	41.258
	Y_T	- 70.00	-1.40
	Z_T	573.934	11.479
Diameter of line		4.0	0.080
Centerline of line located radially at $\phi = 33^\circ 45'$ (Left of TDL looking forward)			

TABLE III (CONT'D)

MODEL COMPONENT: ELECTRICAL CONDUIT PT₂₅GENERAL DESCRIPTION: Right-hand aft electrical conduit line on T₂₈ withLH₂ pressure sensor line and LO₂ vent valve actuator line.

MODEL SCALE: 0.020

DRAWING NO.: VL78-000063, VL78-000062B, Martin Marietta 82600207000

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at:	X _T	1084.333	21.687
	Y _T	99.591	1.992
	Z _T	139.620	2.792
Trailing edge at:	X _T	2058.00	41.160
	Y _T	99.591	1.992
	Z _T	139.620	2.792
Conduit size		2.0 x 6.0	0.4 x 0.12

Centerline of line located radially at $\phi = 35.5^\circ$

TABLE III (CONT'D)

MODEL COMPONENT: LO₂ PRESSURE LINE - PT₂₆GENERAL DESCRIPTION: LO₂ pressure line on the T₂₈.

MODEL SCALE: 0.020

DRAWING NO.: VL78-000063, VL78-000062B, Martin Marietta 82600207000

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at:	X _T	360.733	7.215
	Y _T	15.145	0.3029
	Z _T	407.718	8.154
Trailing edge at:	X _T	2063.5	41.670
	Y _T	63.25	1.265
	Z _T	609.00	12.180
Centerline of line located radially at $\phi = 27^\circ$			
Line diameter		2.0	0.040

TABLE III (CONT'D)

MODEL COMPONENT: ELECTRICAL CONDUIT PT₂₇GENERAL DESCRIPTION: Electrical conduit on the right-hand forward section of T₂₈.

MODEL SCALE: 0.020

DRAWING NO.: VL78-000062B

DIMENSIONS:

		<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Leading edge at:	X _T	360.733	7.215
	Y _T	11.549	0.2310
	Z _T	412.474	8.249
Trailing edge at:	X _T	876.273	17.525
	Y _T	226.114	4.522
	Z _T	646.774	12.935

Centerline of conduit located radiatllly at $\phi = 47.5^\circ$

Conduit size 2.0 x 6.0 0.04 x 0.12

*REVISED 6/1/74

TABLE III (CONT'D)

MODEL COMPONENT RUDDER - R₅

GENERAL DESCRIPTION Configuration 140C rudder.

MODEL SCALE: 0.020

DRAWING NUMBER VL70-000146B

DIMENSIONS	FULL SCALE	MODEL SCALE
Area - Ft ²	<u>100.15</u>	<u>0.04006</u>
Span (equivalent) , In.	<u>201.00</u>	<u>4.02</u>
Inb'd equivalent chord , In.	<u>91.585</u>	<u>1.832</u>
Outb'd equivalent chord , In.	<u>50.833</u>	<u>1.017</u>
Ratio movable surface chord/ total surface chord	<u> </u>	<u> </u>
At Inb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
At Outb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
Sweep Back Angles, degrees	<u> </u>	<u> </u>
Leading Edge	<u>34.83</u>	<u>34.83</u>
Trailing Edge	<u>26.25</u>	<u>26.25</u>
Hingeline (Product of area & \bar{c})	<u>34.83</u>	<u>34.83</u>
Area Moment (Normal to hingeline, Ft ³)	<u>610.92</u>	<u>0.00489</u>
Mean Aerodynamic Chord, In .	<u>73.2</u>	<u>1.464</u>

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TABLE III (CONT'D)

MODEL COMPONENT : SOLID ROCKET BOOSTER - S₂₂GENERAL DESCRIPTION : SOLID ROCKET BOOSTER - S₂₂MODEL SCALE: 0.020DRAWING NUMBER : VL77-000002, VC70-000002

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length, In.	<u>1789.6</u>	<u>35.792</u>
Max Width (Body dia), In.	<u>146.0</u>	<u>2.92</u>
Max Depth (aft shroud dia.,)	<u>208.2</u>	<u>4.164</u>
Fineness Ratio	<u>8.596</u>	<u>8.596</u>
Area - Ft ²	<u> </u>	<u> </u>
Max. Cross-Sectional	<u>236.423</u>	<u>0.094569</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>
W.P. of SRB Centerline (Z _T)	<u>400.00</u>	<u>8.0</u>
F.S. of SRB Centerline (X _T)	<u>743.0</u>	<u>14.86</u>
B.P. of SRB Centerline (Y _T)	<u>250.5</u>	<u>5.01</u>

TABLE III (CONT'D)

MODEL COMPONENT: EXTERNAL TANK - T₂₈

GENERAL DESCRIPTION: _____

DRAWING NUMBER VC70-000002, VC78-000002

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length, In.	<u>1844.275</u>	<u>36.8855</u>
Max Width, Dia., In.	<u>331.00</u>	<u>6.620</u>
Max Depth	<u> </u>	<u> </u>
Fineness Ratio	<u>5.687</u>	<u>5.687</u>
Area		
Max Cross-Sectional	<u>594.678</u>	<u>0.23787</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III (CONT'D)

MODEL COMPONENT: VERTICAL - V₈GENERAL DESCRIPTION: Configuration 140C vertical tail.MODEL SCALE: 0.020DRAWING NUMBER: VL70-000146B W/O DragchuteDIMENSIONS: FULL SCALE MODEL SCALE

TOTAL DATA

Area (Theo) - Ft ²	<u>413.253</u>	<u>0.2053</u>
Planform		
Span (Theo) - In.	<u>315.72</u>	<u>7.3144</u>
Aspect Ratio	<u>1.675</u>	<u>1.675</u>
Rate of Taper	<u>0.507</u>	<u>0.507</u>
Taper Ratio	<u>0.404</u>	<u>0.404</u>
Sweep-Back Angles, Degrees.		
Leading Edge	<u>45.000</u>	<u>45.000</u>
Trailing Edge	<u>26.25</u>	<u>26.25</u>
0.25 Element Line	<u>41.13</u>	<u>41.13</u>
Chords:		
Root (Theo) WP	<u>268.50</u>	<u>5.370</u>
Tip (Theo) WP	<u>108.47</u>	<u>2.1694</u>
MAC	<u>199.81</u>	<u>3.9962</u>
Fus. Sta. of .25 MAC	<u>1463.35</u>	<u>29.2670</u>
W.P. of .25 MAC	<u>635.52</u>	<u>12.710</u>
B.L. of .25 MAC	<u>0.0</u>	<u>0.0</u>
Airfoil Section		
Leading Wedge Angle - Deg.	<u>10.0</u>	<u>10.0</u>
Trailing Wedge Angle - Deg.	<u>14.92</u>	<u>14.92</u>
Leading Edge Radius	<u>2.0</u>	<u>0.04</u>
Void Area - Ft ²	<u>13.17</u>	<u>0.005268</u>
Blanketed Area	<u>0.0</u>	<u>0.0</u>

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TABLE III (CONL'D)

MODEL COMPONENT: WING-W₁₂₇

GENERAL DESCRIPTION: Configuration 140C orbiter wing, MCR 200-R4; similar to 140A/B wing W₁₂₆ but with refinements. Improved wing-boot-midbody fairing ($X_0 = 940$ to $X_0 = 1040$); elevon split line relocated from $Y_0 = 281$ to $Y_0 = 312.5$.

MODEL SCALE: 0.020

TEST NO.

DWG. NO. VL70-000140C, -000200BDIMENSIONS:TOTAL DATA

Area (Theo.) Ft^2
 Planform
 Span (Theo) In.
 Aspect Ratio
 Rate of Taper
 Taper Ratio
 Dihedral Angle, degrees
 Incidence Angle, degrees
 Aerodynamic Twist, degrees
 Sweep Back Angles, degrees
 Leading Edge
 Trailing Edge
 0.25 Element Line
 Chords:
 Root (Theo) B.P.O.O.
 Tip, (Theo) B.P.
 MAC
 Fus. Sta. of .25 MAC
 W.P. of .25 MAC
 B.L. of .25 MAC

EXPOSED DATA

Area (Theo) Ft^2
 Span, (Theo) In. BP108
 Aspect Ratio
 Taper Ratio
 Chords
 Root BP108
 Tip 1.00 $\frac{b}{2}$
 MAC
 Fus. Sta. of .25 MAC
 W.P. of .25 MAC
 B.L. of .25 MAC
 Airfoil Section (Rockwell Mod NASA)
 XXXX-64

Root $\frac{b}{2} =$ Tip $\frac{b}{2} =$

Data for (1) of (2) Sides

Leading Edge Cuff
 Planform Area Ft^2
 Leading Edge Intersects Fus M. L. @ Sta
 Leading Edge Intersects Wing @ Sta

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POOR QUALITYFULL-SCALEMODEL SCALE

2690.00	1.076
936.58	18.733
2.265	2.265
1.177	1.177
0.200	0.200
3.500	3.500
0.500	0.500
3.000	3.000
45.000	45.000
- 10.056	- 10.056
35.209	35.209
689.24	13.785
137.85	2.757
474.81	9.496
1136.83	22.737
290.58	5.812
182.12	3.643
1751.50	0.7005
720.68	14.414
2.059	2.059
0.245	0.245
562.00	11.240
137.85	2.757
392.83	7.857
1185.08	23.700
294.50	5.880
251.77	5.035
0.113	0.113
0.120	0.120
112.18	0.0453
500.00	10.00
1024.00	20.480

Table IV Orbiter Fuselage Pressure Tap Numbers and Locations

ORBITER $X_0 \sim \text{IN.}$			RADIAL LOCATION $\sim \phi$, DEGREES											NO OF TAPS
FULL SCALE	MODEL SCALE	X_0/l_B	0	320	290	270	255	240	225	210	195	180		
880	17.60	0.500			303	302				301			3	
1080	21.60	0.653		312	311	310	309	308	307	306	305	304	8	
1180	23.60	0.730		321	320	319	318	317	316	315	314	313	8	
1245	24.90	0.781		330	329	328	327	326	325	324	323	322	10	
1300	26.00	0.823		339	338	337	336	335	334	333	332	331	10	
1375	27.50	0.882	348	347	346	345	344	343	342	341	340		9	
1430	28.60	0.923	357	356	355	354	353	352	351	350	349		9	
1480	29.60	0.963	366	365	364	363	362	361	360	359	358		9	
1530	30.60	1.002	LOCATION OFF OMS POD 368 367 LOCATION OFF OMS POD)											2
														68

Vertical $W_L \sim Z_0$		$X/C_v \sim$ LOCAL CHORD										NO. TAPS
FULL SCALE	MODEL SCALE	η_v	0	0.025	0.050	0.150	0.300	0.520	0.750	0.900		
550	11.0	0.158	401	402	403	404	405	406	407	--	7	
600	12.0	0.316	408	409	410	411	412	413	414	415	8	
690	13.8	0.600	416	417	418	419	420	421	422	423	8	
765	15.3	0.840	424	425	426	427	428	429	430	431	8	
792	15.84	0.925	432	433	434	435	436	437 7	438	439	8	
TOTAL VERTICAL TAPS												39

RIGHT
SIDE

BODY FLAP

ORBITER $\sim X_0$		$\phi \sim$ DEGREES		NO. TAPS
FULL SCALE	MODEL SCALE	SURFACE		
1555	31.1	UPPER	0 320 382 383	2
1555	31.1	LOWER	386 387	2
1590	31.8	UPPER	384 385	2
1590	31.8	LOWER	388 389	2
TOTAL BODY FLAP				8

NOTE: Base Pressure Tap Locations TBD.

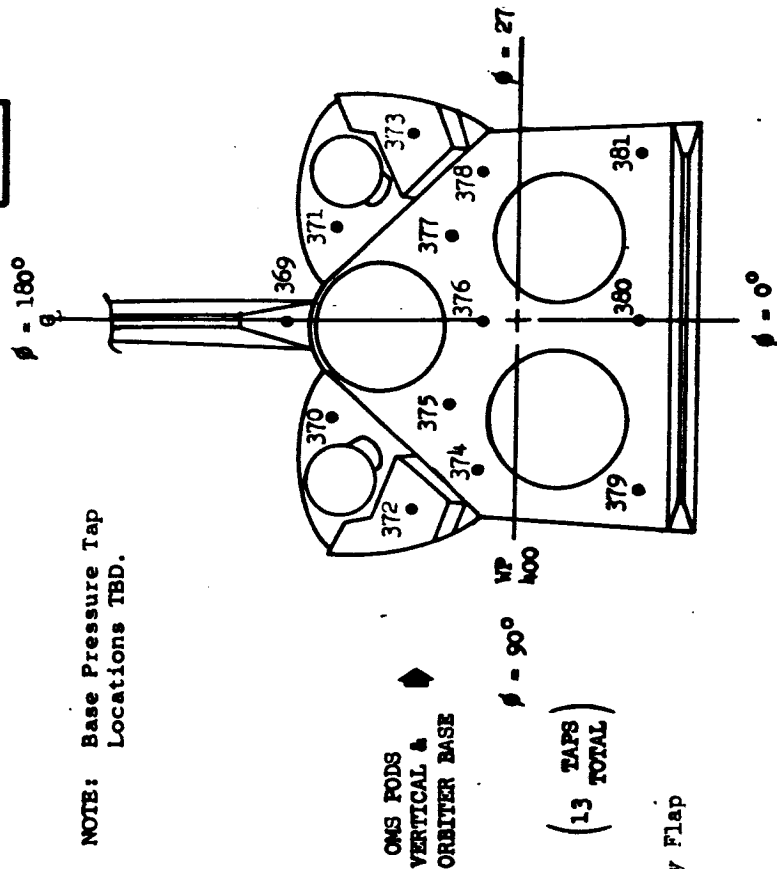


Table V Orbiter Base, Vertical Tail and Body Flap Pressure Tap Numbers and Locations

Table VI Orbiter Right Wing Pressure Tap
Numbers and Locations

RIGHT WING X/C LOCAL CHORD	$\eta = 0.299$ $Y_0 = 2.8$ IN M.S.	$\eta = 0.364$ $Y_0 = 3.4$ IN M.S.	$\eta = 0.427$ $Y_0 = 4.0$ IN M.S.	$\eta = 0.534$ $Y_0 = 5.0$ IN M.S.	$\eta = 0.641$ $Y_0 = 6.0$ IN M.S.	$\eta = 0.780$ $Y_0 = 7.30$ IN M.S.	$\eta = 0.887$ $Y_0 = 8.3$ IN M.S.
0*	101	112	118	131	144	155	164
0.02			119,216	132,228	145,240	156,250	165,258
0.04		113,211	120,217				
0.05	102,201			133,229	146,241	157,251	166,259
0.08				134,230			
0.081			121,218				
0.086		114,212					
0.094	103,202						
0.150				135,231	147,242	158,252	167,260
0.163		115,213					
0.177			122,219				
0.229	104,203						
0.246		116,214					
0.250				136,232	148,243	159,253	168,261
0.274			123,220				
0.362	105,204						
0.390		117,215					
0.400				137,233	149,244		169,262
0.402			124,221				
0.497	106,205						

* TAPS AT X/C = 0 ARE LOCATED ON WING LEADING EDGE

NOTE: 100 SERIES NUMBERS LOCATED ON TOP OF WING.

200 SERIES NUMBERS LOCATED ON BOTTOM OF WING.

Table VI (Continued)

RIGHT WING X/C	$\eta = .299$ $Y_o = 2.8$ IN M.S.	$\eta = 0.364$ $Y_o = 3.4$ IN M.S.	$\eta = 0.427$ $Y_o = 4.0$ IN M.S.	$\eta = 0.534$ $Y_o = 5.0$ IN M.S.	$\eta = 0.641$ $Y_o = 6.0$ IN M.S.	$\eta = 0.780$ $Y_o = 7.30$ IN M.S.	$\eta = 0.887$ $Y_o = 8.3$ IN M.S.
0.55				138,234	150,245		
0.565			125,222				
0.60							170,263
0.65						160,254	
0.70	107,206				151,246		
0.725				139,235			
0.75						161,255	171,264
0.760			126,223				
0.775				140,236	152,247		
0.808			127,224				
0.834	108,207						
0.85				141,237	153,248	162,256	
0.857			128,225				
0.865	109,208						
0.90	110,209			142,238			172,265
0.905			129,226		154,249		
0.95				143,239		163,257	
0.953			130,227				
0.965	111,210						

NOTE: 100 SERIES NUMBERS LOCATED ON TOP OF WING

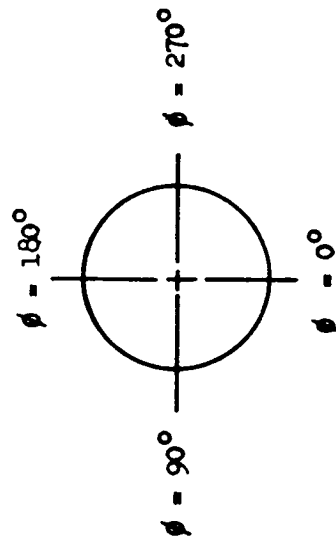
200 SERIES NUMBERS LOCATED ON BOTTOM OF WING

TOTAL NUMBER OF TAPS = 137

Table VII External Tank Pressure Tap Numbers and Locations

ET STATION ~ X_T		$\phi \sim \text{DEGREES}$																
FULL SCALE	MODEL SCALE	X_T/L_T	0	30	60	90	120	135	150	165	180	195	210	225	240	270	300	330
1500	30.0	0.634				502										501		
1700	34.0	0.742		504	505	506	507	508	509	510						503		
1900	38.0	0.851	518	519	520	521	522	523	524	525		511	512	513	514	515	516	517
2040	40.8	0.986	533	534	535	536	537	538	539	540		526	527	528	529	530	531	532
TANK BASE @ ϕ											541							
TANK BASE @ 1/3 RAD			550	551	552	553	554	555	556	557	542	543	544	545	546	547	548	549
TANK BASE @ 2/3 RAD			566	567	568	569	570	571	572	573	558	559	560	561	562	563	564	565

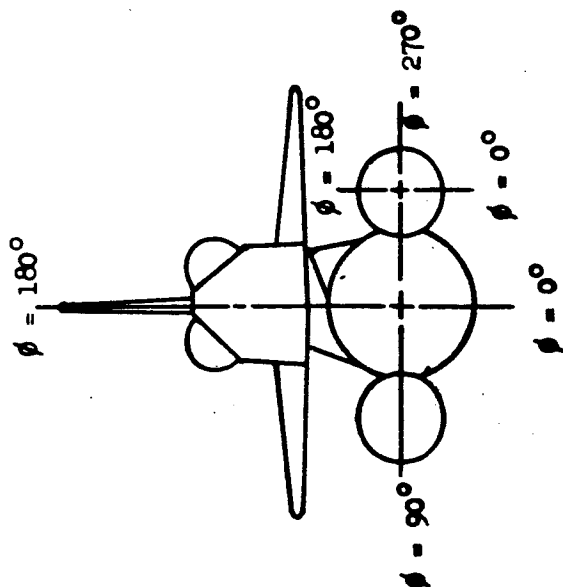
TOTAL NO. TAPS= 73



VIEW LOOKING VIEW LOOKING FORWARD

Table VIII SRB Pressure Tap Numbers and Locations

SRB STATION ~ X_B			$\phi \sim$ DEGREES				NO. TAPS
FULL SCALE	MODEL SCALE	X_B/L_B	0	90	180	270	
1450	29.0	0.700	603	604	601	602	4
1650	33.0	0.811	607	608	605	606	4
1850	37.0	0.923	611	612	609	610	4
1890	37.8	0.945	615	616	613	614	4
1930	38.6	0.968	619	620	617	618	4
SKIRT BASE			623	624	621	622	4
TOTAL NO. SRB TAPS							24



$L = 1789.6 \text{ in}$ $s = 35.792 \text{ in}$

ET & SRB RADIAL LOCATIONS

Notes:

1. Positive directions of force coefficients, moment coefficients, and angles are indicated by arrows
2. For clarity, origins of wind and stability axes have been displaced from the center of gravity

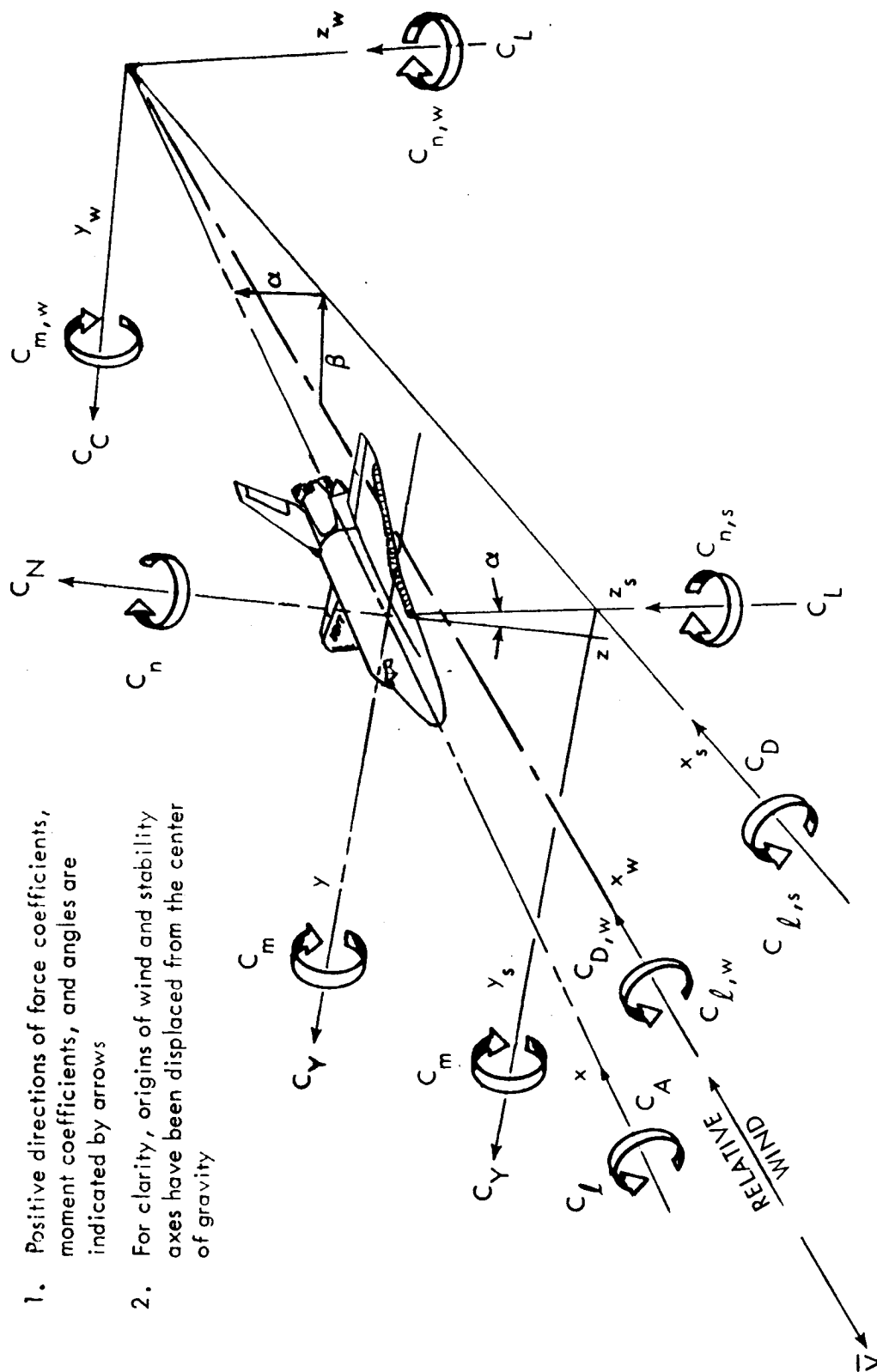


Figure 1. - Axis systems.

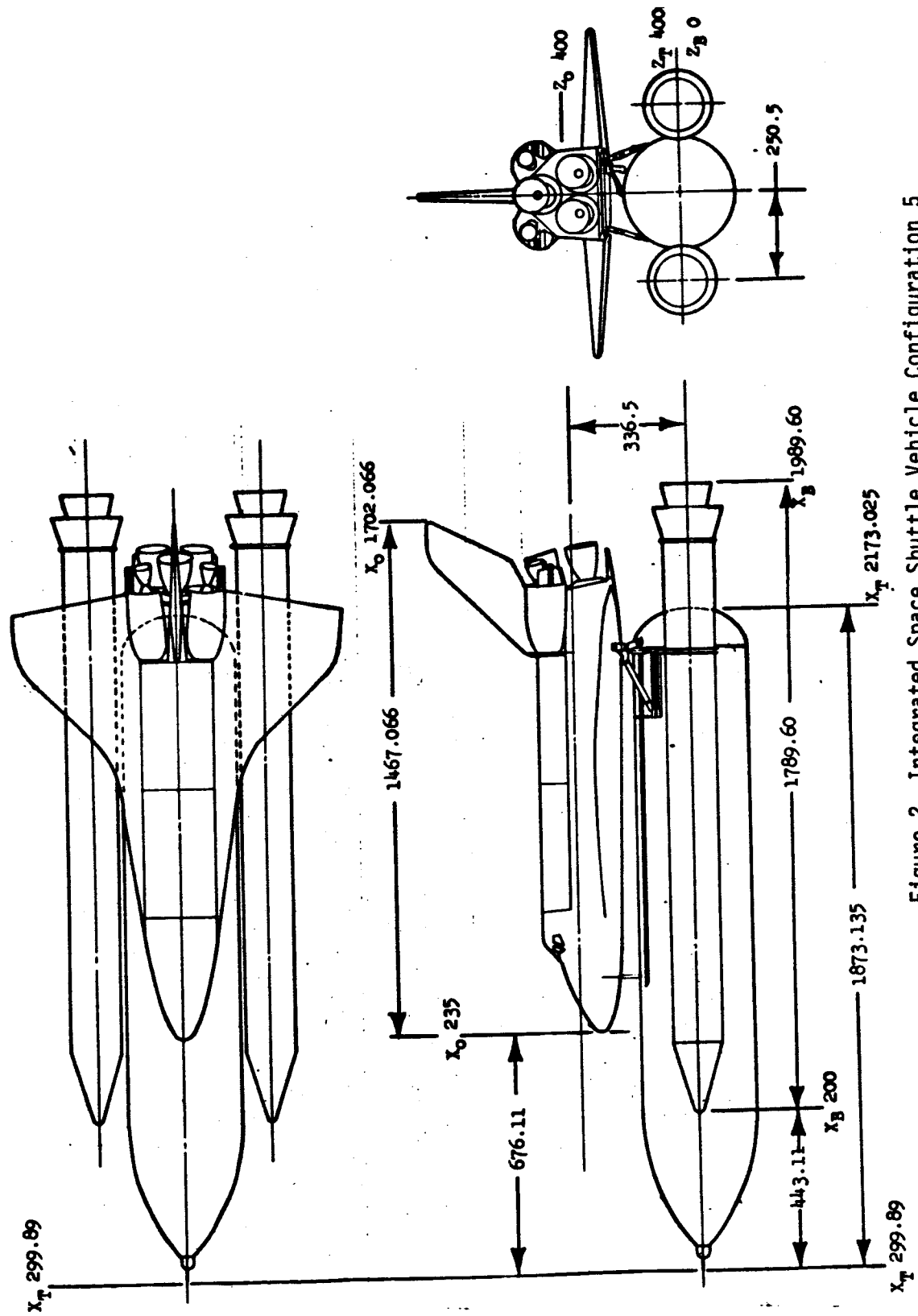
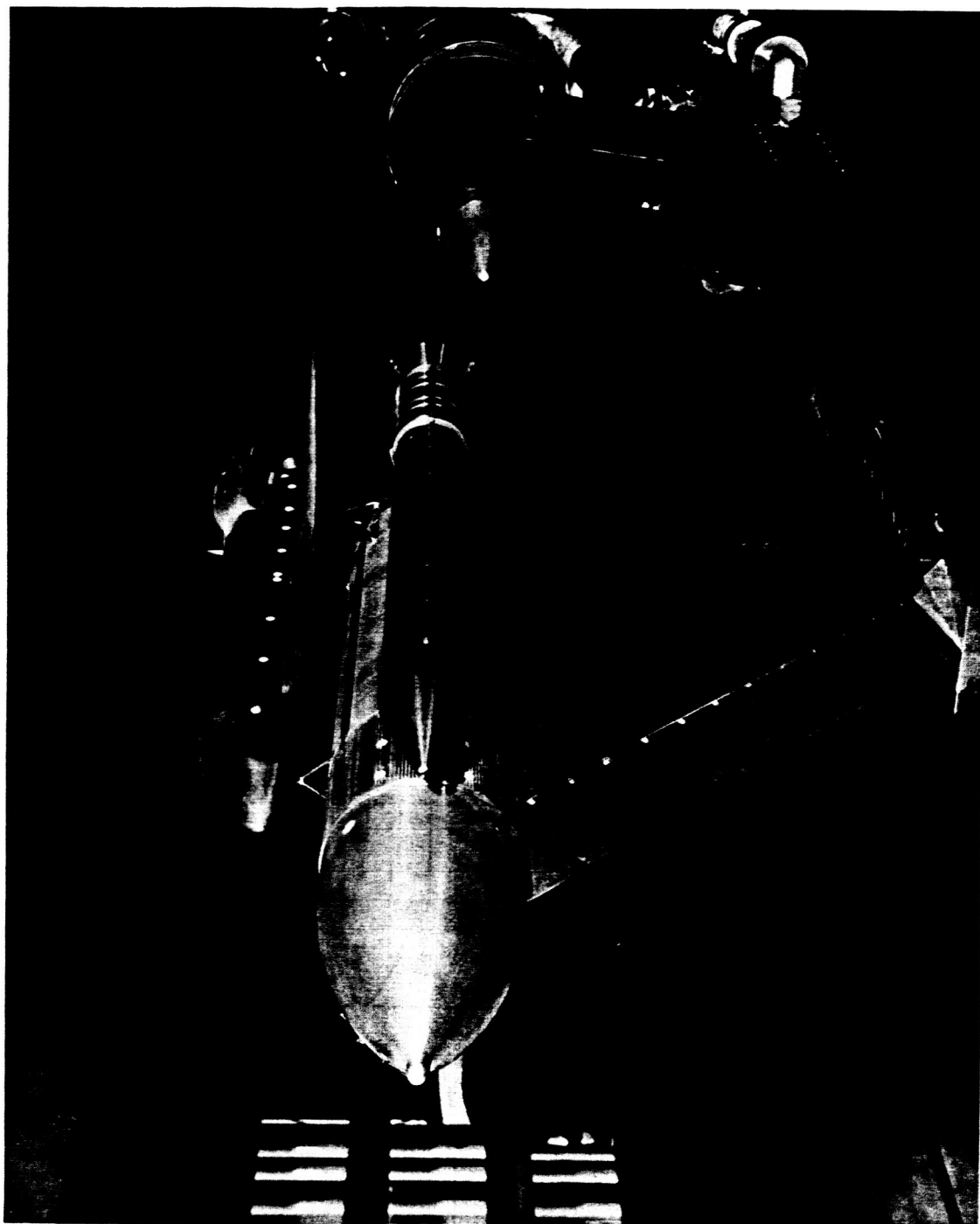
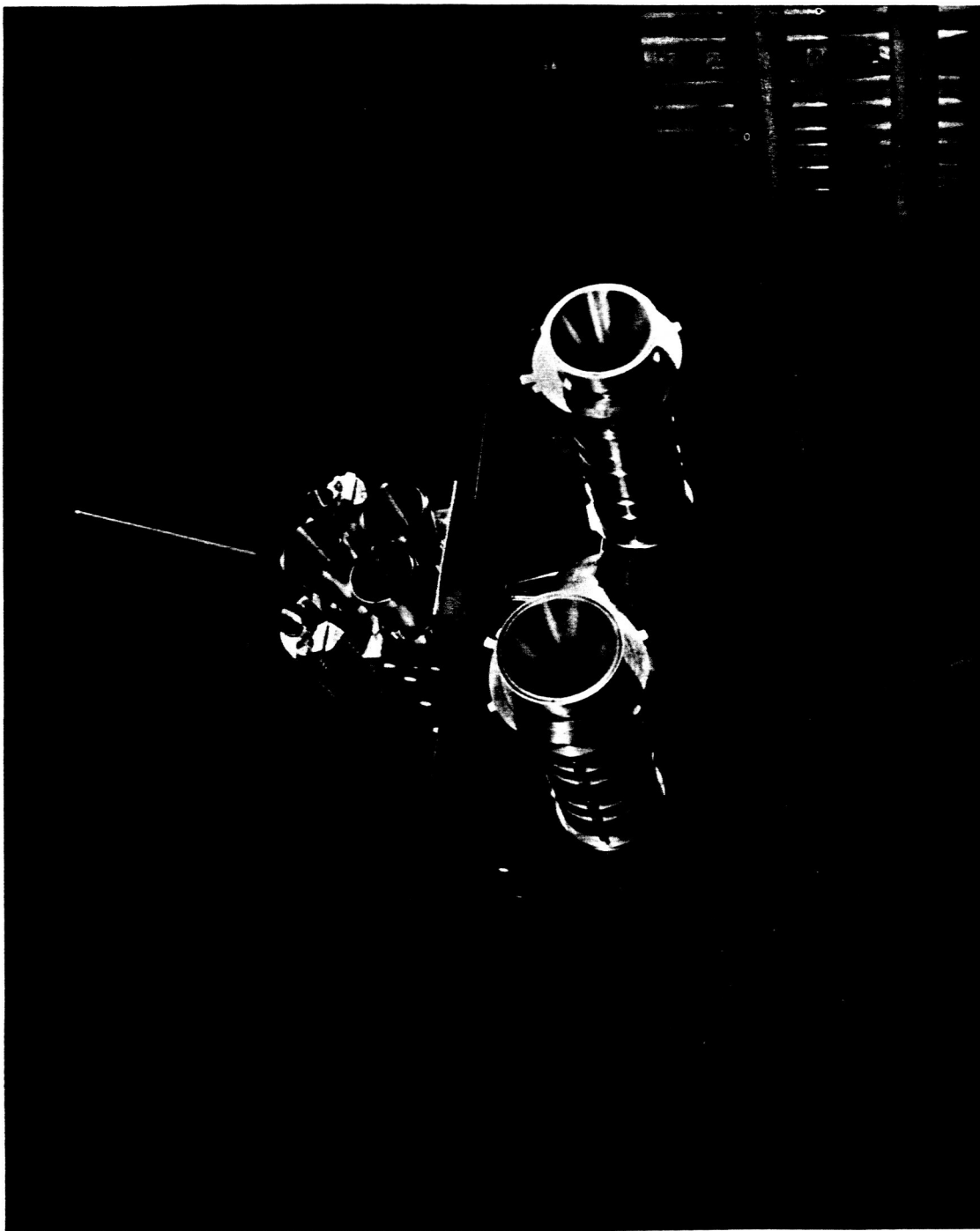


Figure 2. Integrated Space Shuttle Vehicle Configuration 5



a. Model 88-OTS Installation, Front View

Figure 3. - Model photographs.



b. Model 88-OTS Installation, Rear View

Figure 3. - Concluded.

DATA FIGURES

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DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET	SYMBOL	CONFIGURATION	DESCRIPTION
{BEU001}	□	ARC11-0141A19	OTS+STRUT SRB-OFF MPS-OFF
{BEU005}	○	ARC11-0141A19	OTS+STRUT SRB-NOM MPS-NOM
{BEU009}	△	ARC11-0141A19	OTS+STRUT SRB-LGV MPS-NOM
{BEU013}	×	ARC11-0141A19	OTS+STRUT SRB-NOM MPS-OFF
{BEU017}	◇	ARC11-0141A19	OTS+STRUT SRB-HI MPS-HI

ELV-1B ELV-08 MACH GIMBAL REFERENCE INFORMATION

ELV-1B	ELV-08	MACH	GIMBAL	SREF	REF	IN.	XT	YT	ZN
8.000	4.000	.900	1.000	2630.0000	1290.3000	1290.3000	1290.3000	1290.3000	1290.3000
8.000	4.000	.900	1.000	2630.0000	1290.3000	1290.3000	1290.3000	1290.3000	1290.3000
8.000	4.000	.900	1.000	2630.0000	1290.3000	1290.3000	1290.3000	1290.3000	1290.3000
8.000	4.000	.900	1.000	2630.0000	1290.3000	1290.3000	1290.3000	1290.3000	1290.3000
8.000	4.000	.900	1.000	2630.0000	1290.3000	1290.3000	1290.3000	1290.3000	1290.3000

SCALE 400.0000 IN. ZT

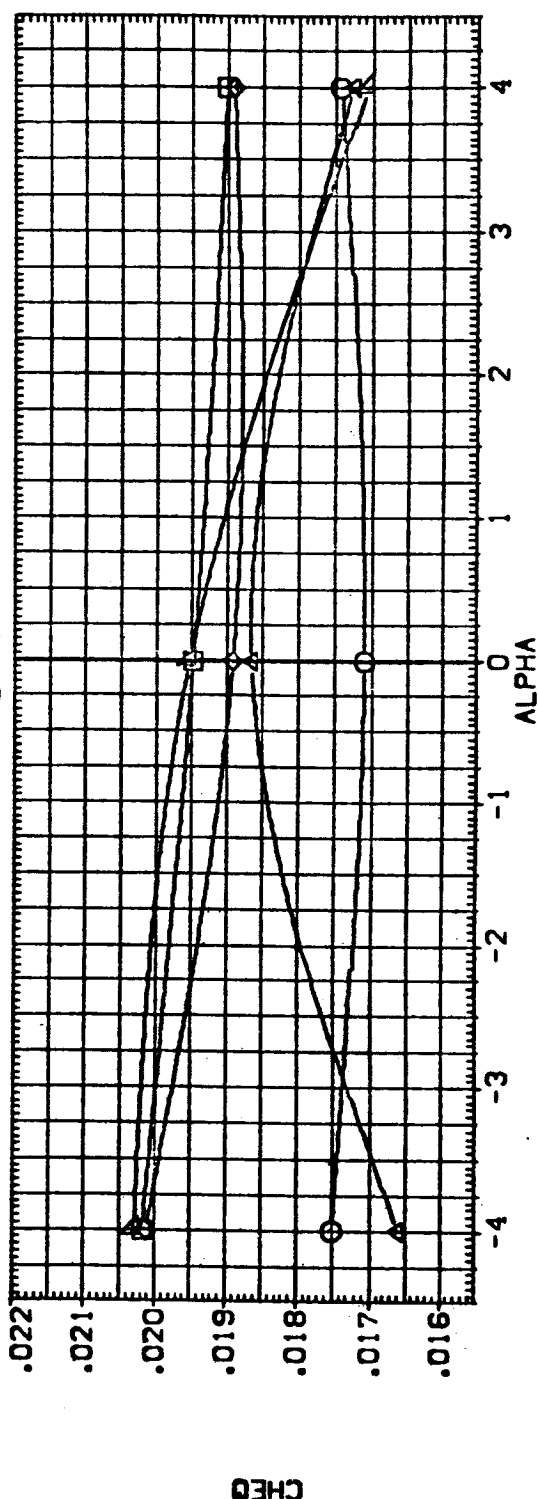
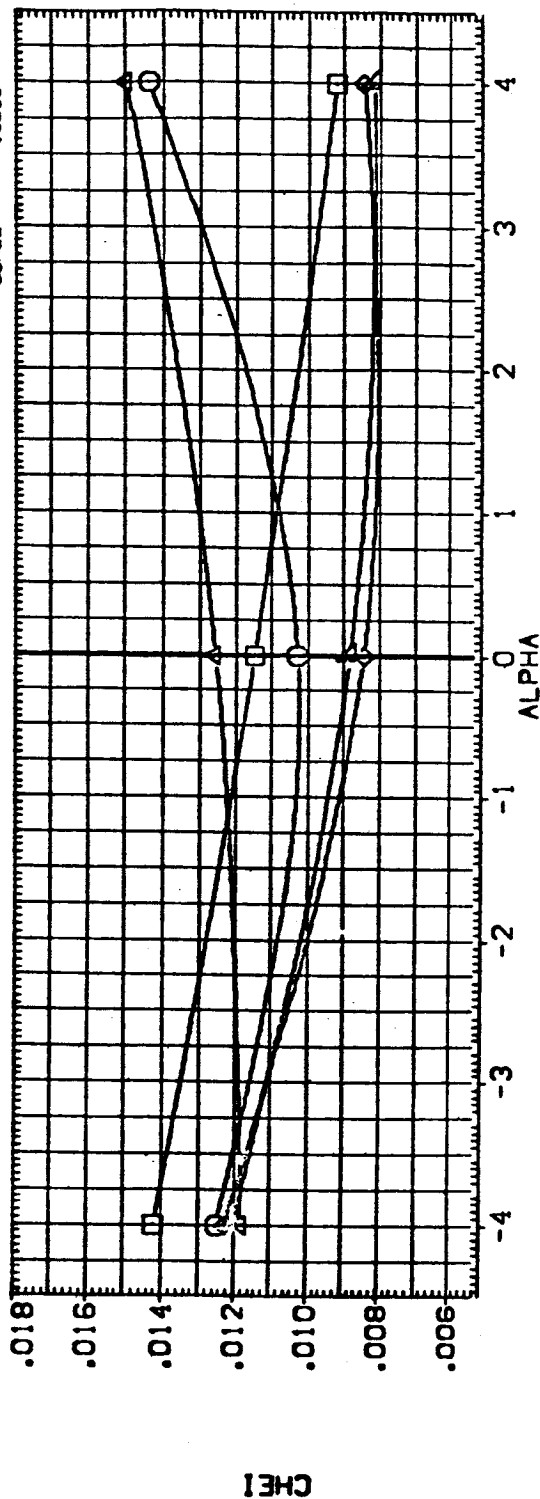


FIG. 4 EFFECT OF PLUMES - MACH=0.9 ELV-1B=8.0 ELV-08=4.0 BETA=0.0
(A) BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[BEU001] ARC11-0141A19 OTS+STRUT SRB-OTF MPS-OTF

[BEU005] ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

[BEU009] ARC11-0141A19 OTS+STRUT SRB-LDM MPS-LDM

[BEU013] ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OTF

[BEU017] ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI

ELV-IB ELV-OB MACH GIMBAL

8.000 4.000 .900 1.000

8.000 4.000 .900 1.000

8.000 4.000 .900 1.000

8.000 4.000 .900 1.000

REFERENCE INFORMATION

SREF 2690.0000 50.FT.

LREF 1290.3000 IN.

BREF 1290.3000 IN.

XMRP 976.0000 IN.

YMRP .0000 IN.

ZMRP 400.0000 IN.

SCALE .0200

ORBITER BASE AXIAL-FORCE COEFFICIENT, C_{ABO}

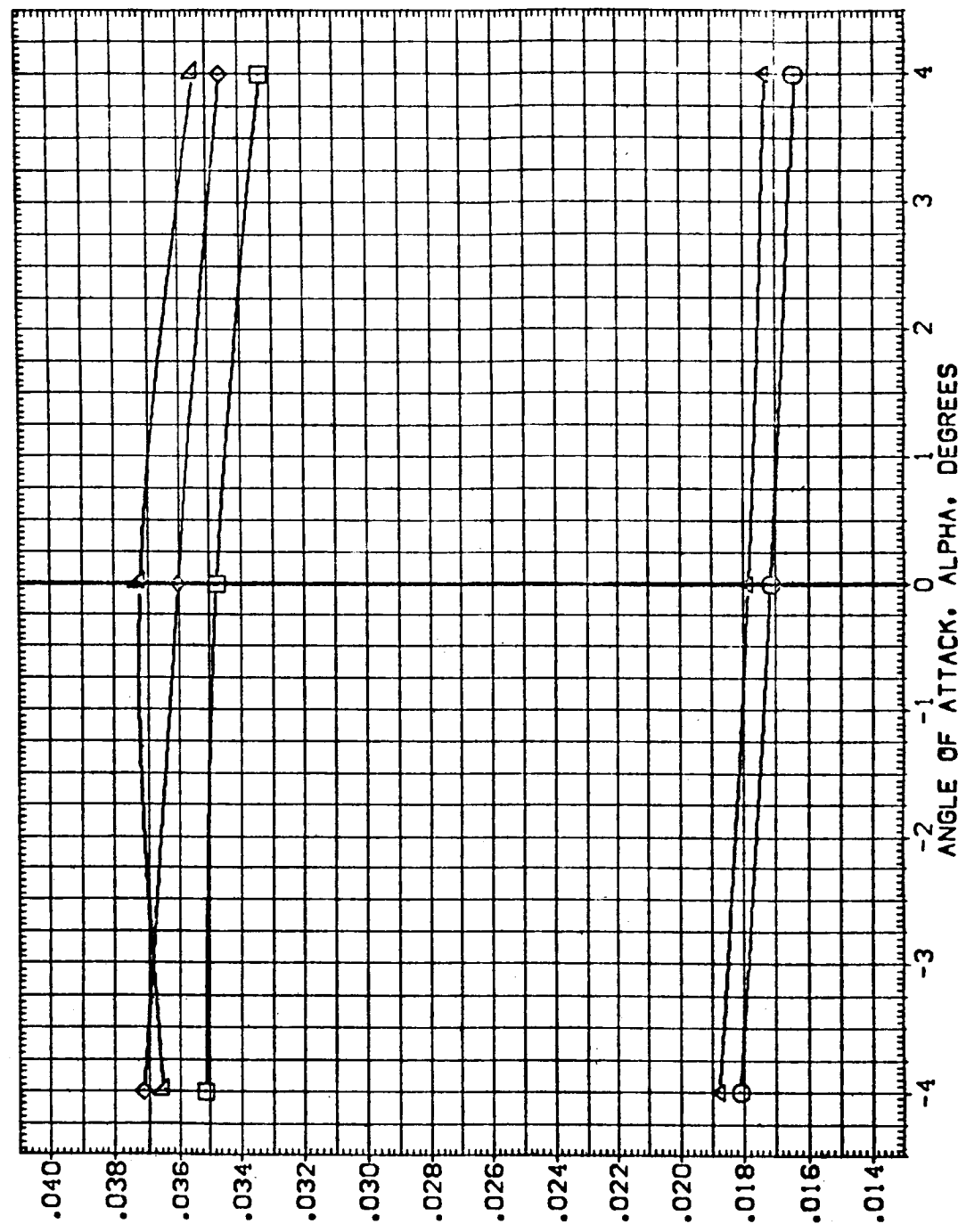


FIG. 4 EFFECT OF PLUMES - MACH=0.9 ELV-IB=8.0 ELV-OB=4.0 BETA=0.0

(A) BETA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-18	ELV-08	MACH	GIMBAL	REFERENCE INFORMATION
{BEU001}	ARC11-0141A19 OTS+STRUT S78-OFF MPS-OFF	8.000	4.000	.900	1.000	SREF 2630.0000 SQ.FT.
{BEU005}	ARC11-0141A19 OTS+STRUT S78-NON MPS-NON	8.000	4.000	.900	1.000	LREF 1290.3000 IN.
{BEU009}	ARC11-0141A19 OTS+STRUT S78-LDV MPS-NON	8.000	4.000	.900	1.000	BREF 1290.3000 IN.
{BEU013}	ARC11-0141A19 OTS+STRUT S78-OFF MPS-OFF	8.000	4.000	.900	1.000	XTRP 576.0000 IN.
{BEU017}	ARC11-0141A19 OTS+STRUT S78-HI MPS-HI	8.000	4.000	.900	1.000	YTRP 400.0000 IN.
						ZTRP 400.0000 IN.
						SCALE .0200

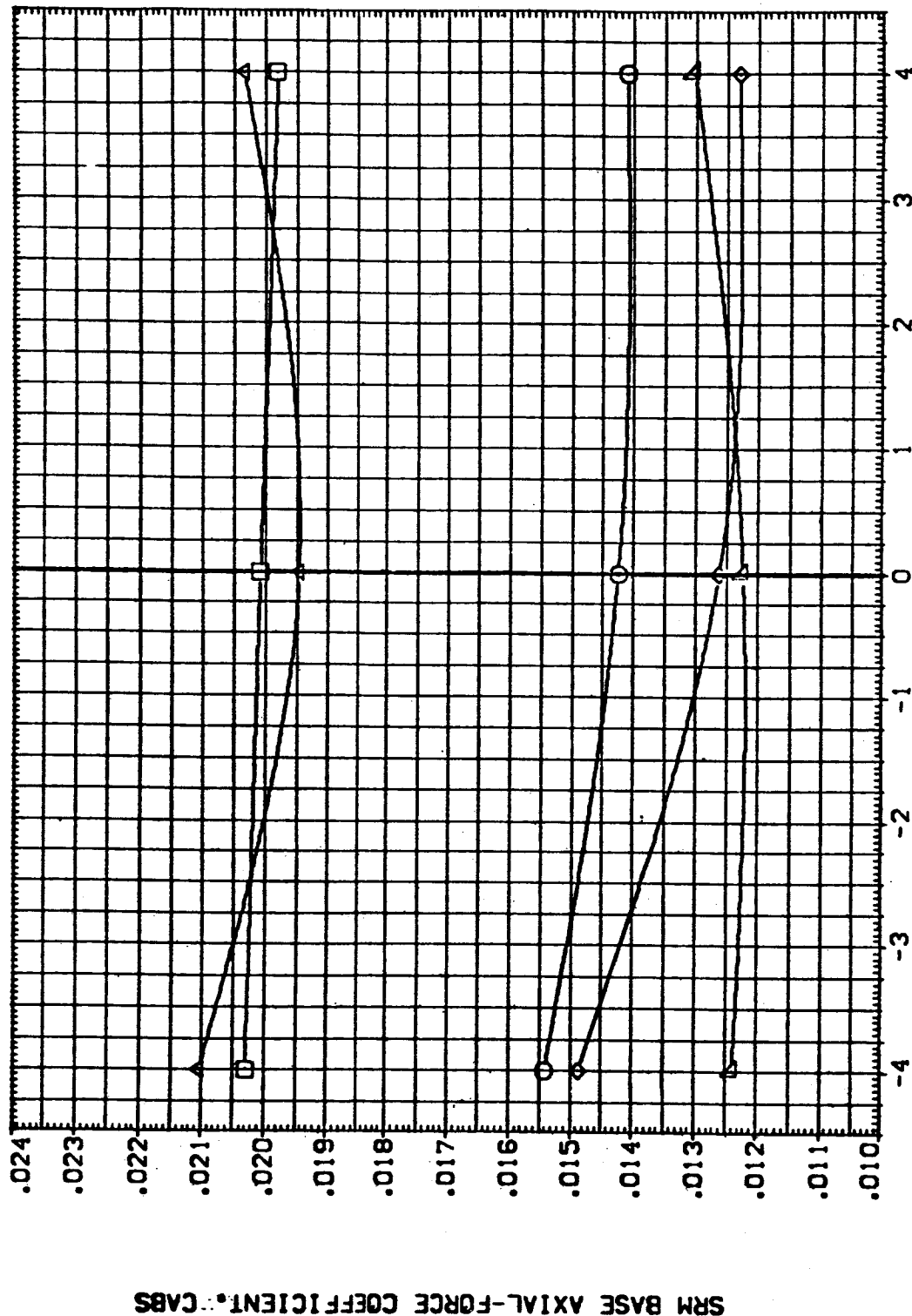


FIG. 4 EFFECT OF PLUMES - MACH=0.9 ELV-18=8.0 ELV-08=4.0 BETA=0.0

(A)BETA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-18	ELV-08	MACH	GIMBAL	REFERENCE INFORMATION
{BEU002}	ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF	8.000	4.000	1.100	1.000	SREF 2690.0000 SQ.FT.
{BEU006}	ARC11-0141A19 OTS+STRUT SRB-NON MPS-NON	8.000	4.000	1.100	1.000	LREF 1290.3000 IN.
{BEU010}	ARC11-0141A19 OTS+STRUT SRB-LDV MPS-NON	8.000	4.000	1.100	1.000	BREF 1290.3000 IN.
{BEU014}	ARC11-0141A19 OTS+STRUT SRB-NON MPS-OFF	8.000	4.000	1.100	1.000	XMRP 576.0000 IN.
{BEU018}	ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI	8.000	4.000	1.100	1.000	ZMRP 400.0000 IN.
						SCALE .0200

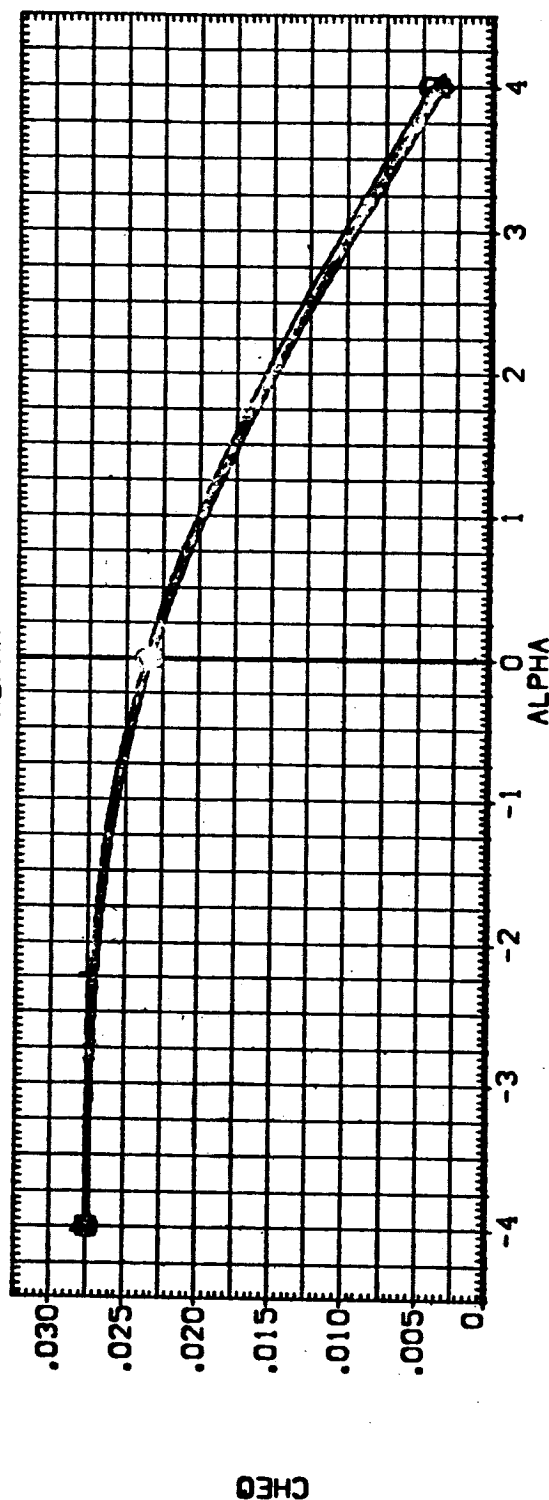
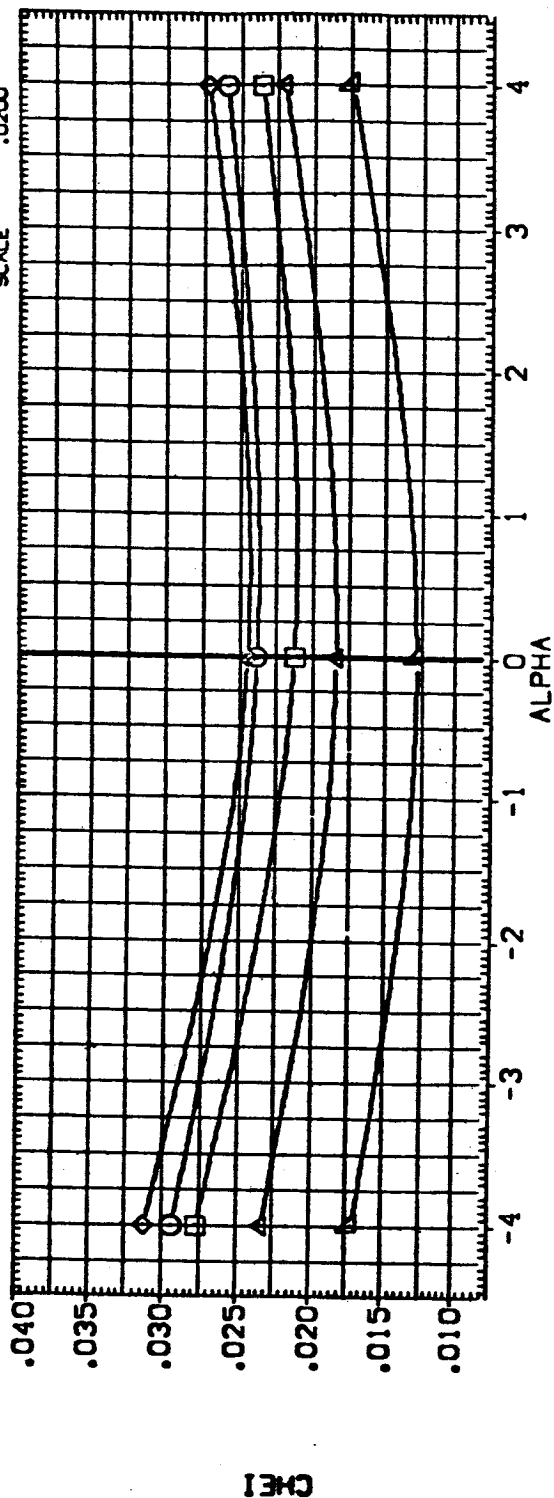


FIG. 5 EFFECT OF PLUMES - MACH=1.1 ELV-18=8.0 ELV-08=4.0 BETA=0.0

(A) BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[BEU002] ARC||-014|A19 OTS+STRUT SRB-OFF MPS-OFF

[BEU006] ARC||-014|A19 OTS+STRUT SRB-NOM MPS-NOM

[BEU010] ARC||-014|A19 OTS+STRUT SRB-LOV MPS-LOV

[BEU014] ARC||-014|A19 OTS+STRUT SRB-HI MPS-HI

[BEU018] ARC||-014|A19 OTS+STRUT SRB-HI MPS-HI

ELV-IB 8.000 4.000 4.000 4.000 4.000

ELV-OB 8.000 4.000 4.000 4.000 4.000

MACH 1.100 1.100 1.100 1.100 1.100

GIMBAL 1.000 1.000 1.000 1.000 1.000

REFERENCE INFORMATION

SREF 2630.0000 SQ.FT.

LREF 1290.3000 IN.

BREF 1250.3000 IN.

XMRP 976.0000 IN.

YMRP .0000 IN.

ZMRP 400.0000 IN.

SCALE .0200

ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

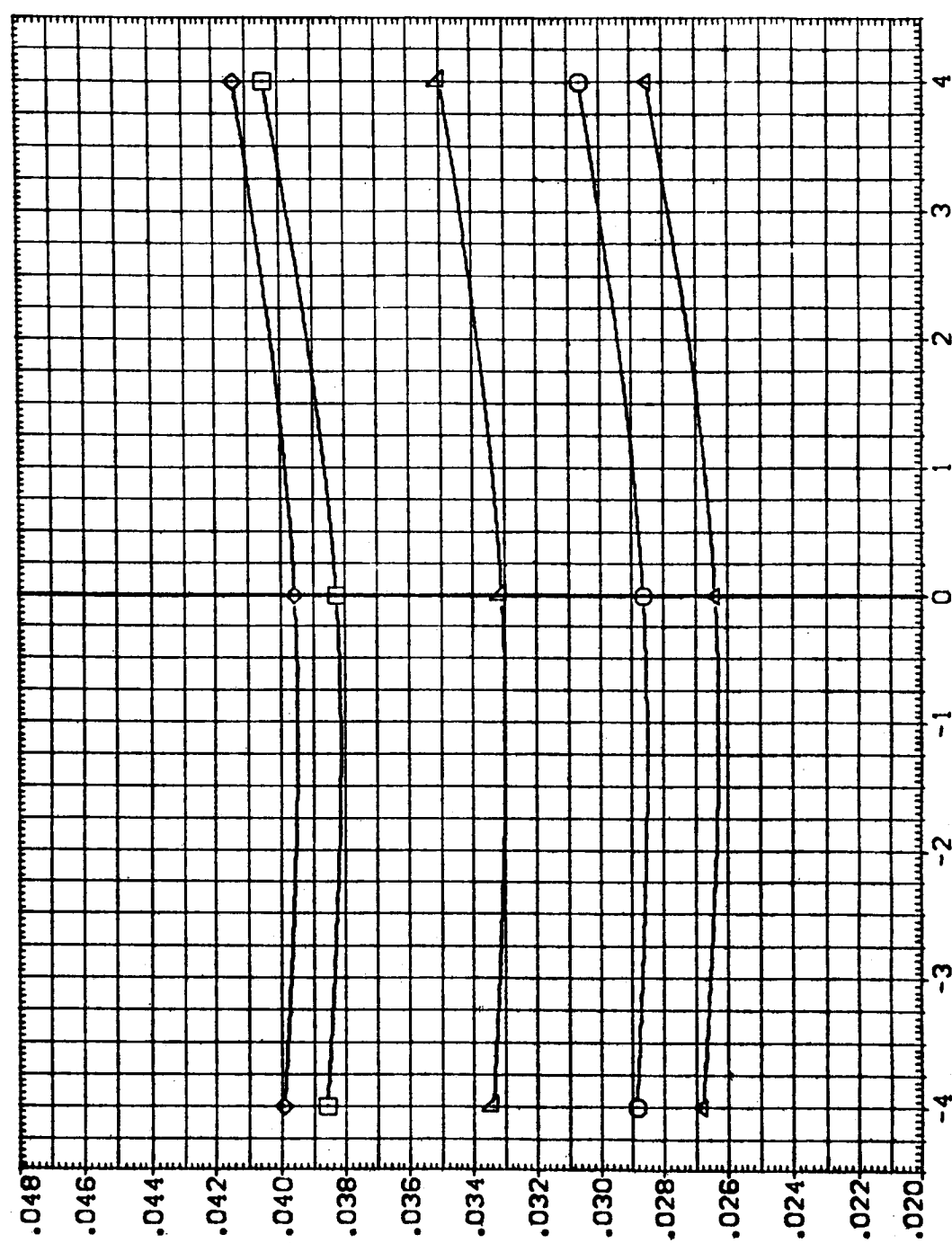


FIG. 5 EFFECT OF PLUMES - MACH=1.1 ELV-IB=8.0 ELV-OB=4.0 BETA=0.0

CABETA = .00



DATA SET SYMBOLS: [BEU002] [BEU008] [BEU010] [BEU014] [BEU018]

CONFIGURATION DESCRIPTION:

ARC	-0.141	9	OTS+STRUT	SRS-OF	MPS-OF
ARC	-0.141	9	OTS+STRUT	SRS-OF	MPS-OF
ARC	-0.141	9	OTS+STRUT	SRS-OF	MPS-OF
ARC	-0.141	9	OTS+STRUT	SRS-OF	MPS-OF
ARC	-0.141	9	OTS+STRUT	SRS-OF	MPS-OF

ELV-18 8.000
ELV-08 4.000
MACH 1.000
01MBAL 0.000

REFERENCE INFORMATION:

SREF	2690.0000	93.71
LREF	1290.0000	N.
BREF	1290.0000	N.
XMRP	976.0000	N.
YMRP	400.0000	N.
ZMRP	400.0000	N.
SCALE	0.0200	N.

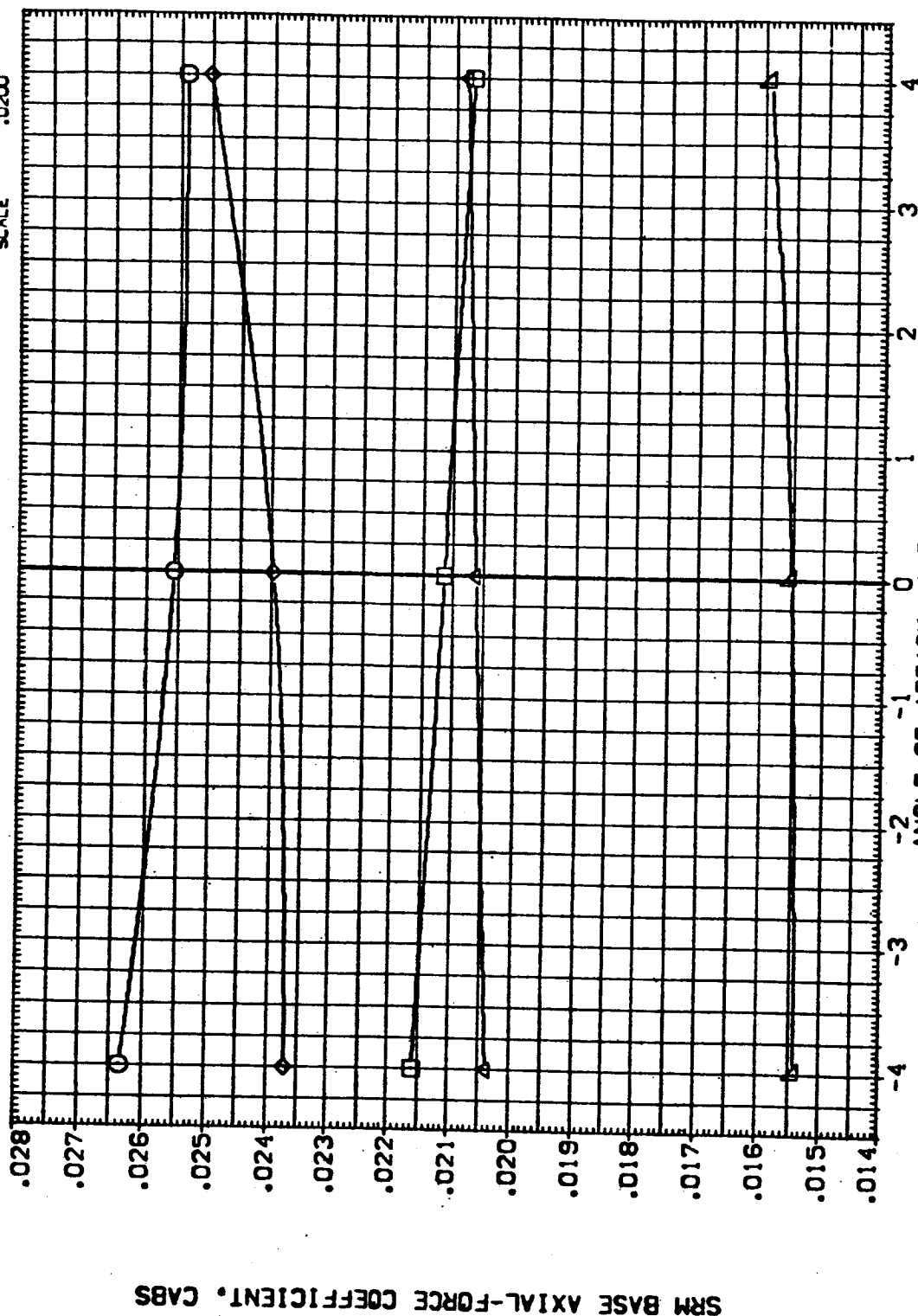


FIG. 5 EFFECT OF PLUMES - MACH=1.1 ELV-18=8.0 ELV-08=4.0 BETA=0.0
(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[BEU002] ARC11-0141A19 OTS-STRUT SRB-OFF MPS-OFF

[BEU006] ARC11-0141A19 OTS-STRUT SRB-NOM MPS-NOM

[BEU010] ARC11-0141A19 OTS-STRUT SRB-LOW MPS-LOW

[BEU014] ARC11-0141A19 OTS-STRUT SRB-NOM MPS-OFF

[BEU018] ARC11-0141A19 OTS-STRUT SRB-HI MPS-HI

ELV-1B ELV-OB MACH GIMBAL

8.000 4.000 1.100 1.000

8.000 4.000 1.100 1.000

8.000 4.000 1.100 1.000

8.000 4.000 1.100 1.000

REFERENCE INFORMATION

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LREF 1290.3000 N. 1290.3000

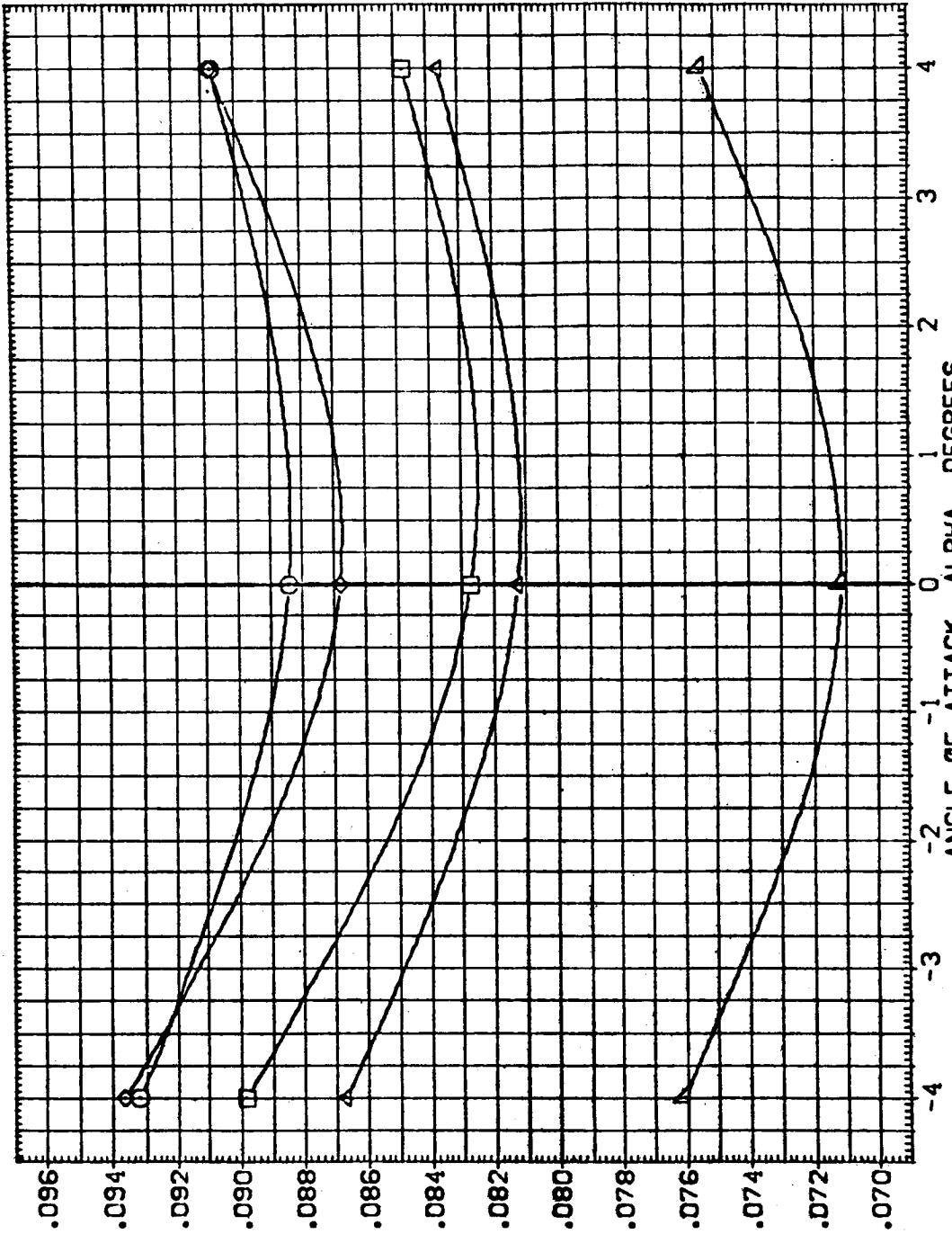
BREF 1290.3000 N. 1290.3000

XMRP 976.0000 N. 1290.3000

YMRP 400.0000 N. 1290.3000

ZMRP 400.0000 N. 1290.3000

SCALE .0200



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 5 EFFECT OF PLUMES - MACH=1.1 ELV-1B=8.0 ELV-OB=4.0 BETA=0.0

(A)BETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	GIMBAL	SPREF	LRREF	BREF	XMRP	YMRP	N. XT	N. YT	N. ZT	SCALE
[BEU003]	ARC11-0141A19 OTS+STRUT SR3-OFF MPS-OFF	8.000	4.000	1.250	1.000	2680.0000	1.000	1.250	1.250	1.000	IN.	IN.	IN.	50.00
[BEU007]	ARC11-0141A19 OTS+STRUT SR3-NOM MPS-NOM	8.000	4.000	1.250	1.000	2680.0000	1.000	1.250	1.250	1.000	IN.	IN.	IN.	50.00
[BEU011]	ARC11-0141A19 OTS+STRUT SR3-LOV MPS-LOV	8.000	4.000	1.250	1.000	2680.0000	1.000	1.250	1.250	1.000	IN.	IN.	IN.	50.00
[BEU015]	ARC11-0141A19 OTS+STRUT SR3-OFF MPS-OFF	8.000	4.000	1.250	1.000	2680.0000	1.000	1.250	1.250	1.000	IN.	IN.	IN.	50.00
[BEU019]	ARC11-0141A19 OTS+STRUT SR3-HI MPS-HI	8.000	4.000	1.250	1.000	2680.0000	1.000	1.250	1.250	1.000	IN.	IN.	IN.	50.00

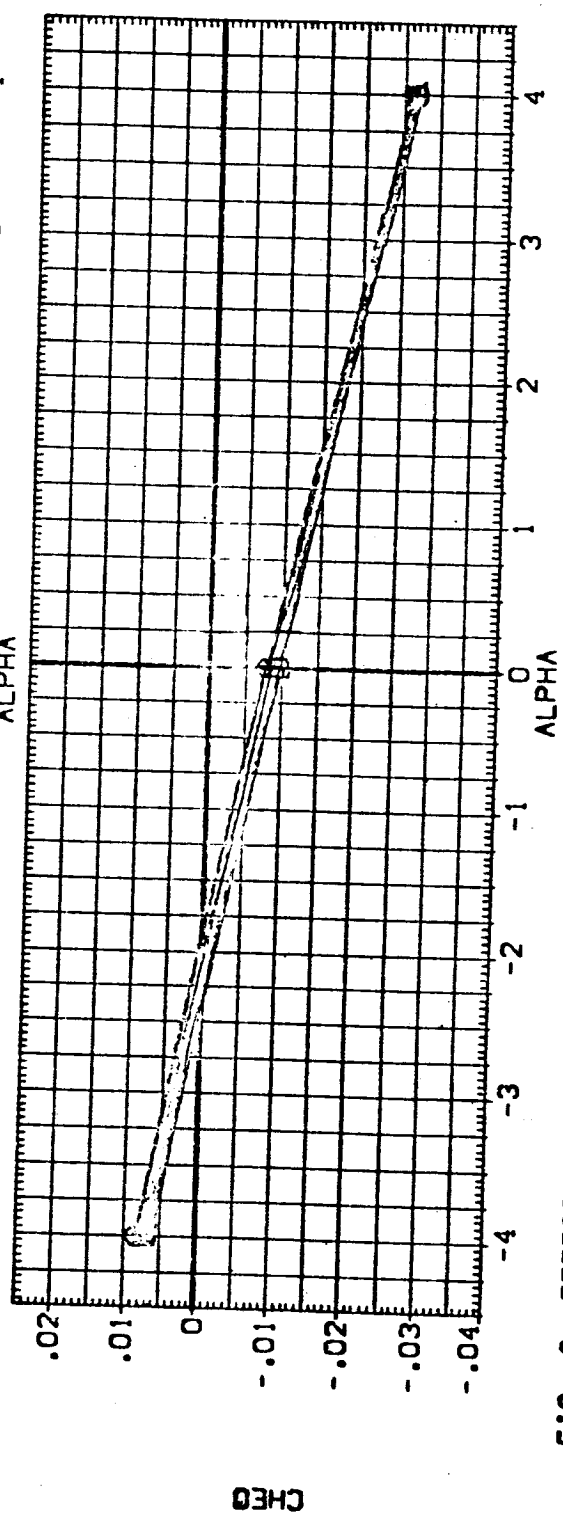
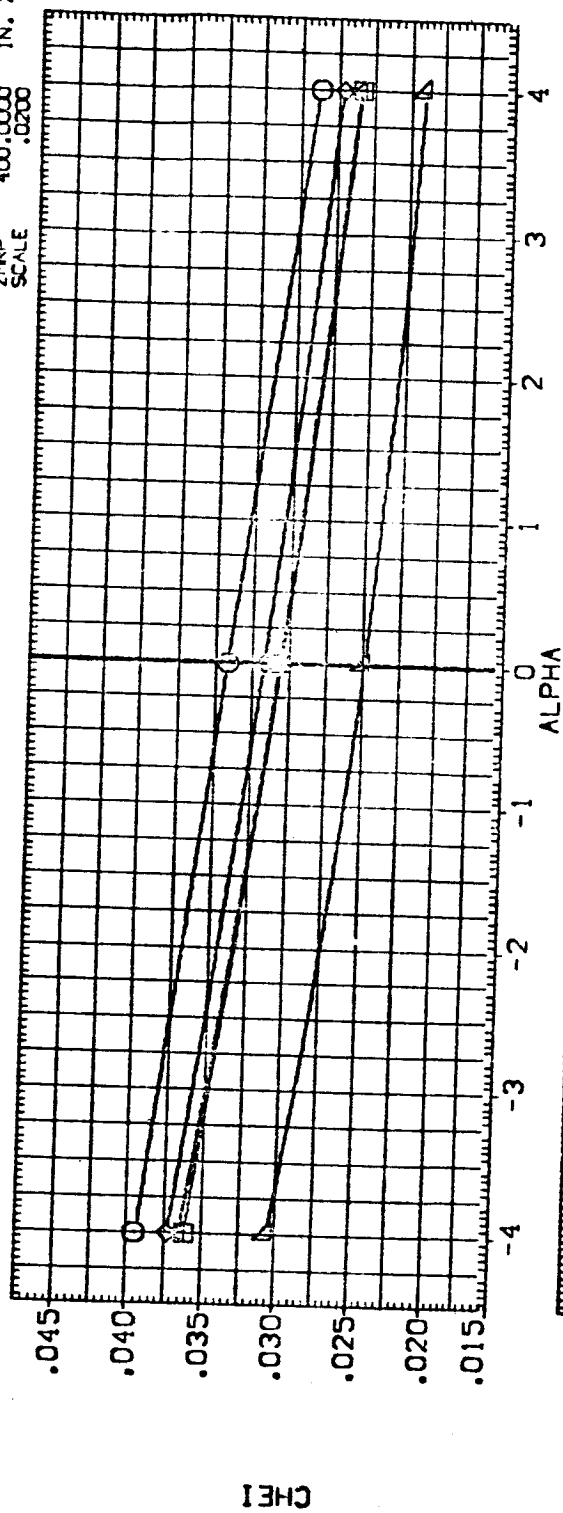


FIG. 6 EFFECT OF PLUMES - MACH=1.25 ELV-IB=8.0 ELV-OB=4.0 BETA=0.0
 (A) BETA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GIMBAL	REFERENCE INFORMATION
[BEUC03]	ARC11-0141A19 OTS+STRUT S18-0FF MPS-0FF	8.000	4.000	1.250	1.000	SREF 2690.0000 SQ.FT.
[BEUC07]	ARC11-0141A19 OTS+STRUT S13-N04 MPS-N04	8.000	4.000	1.250	1.000	LREF 1290.3000 IN.
[BEUC11]	ARC11-0141A19 OTS+STRUT S13-L0V MPS-N04	8.000	4.000	1.250	1.000	BREF 1290.3000 IN.
[BEUC15]	ARC11-0141A19 OTS+STRUT S18-0FF MPS-0FF	8.000	4.000	1.250	1.000	XREF 976.0000 IN.
[BEUC19]	ARC11-0141A19 OTS+STRUT S18-H1 MPS-H1	8.000	4.000	1.250	1.000	YREF 400.0000 IN.
						ZREF 400.0000 IN.
						SCALE .0200

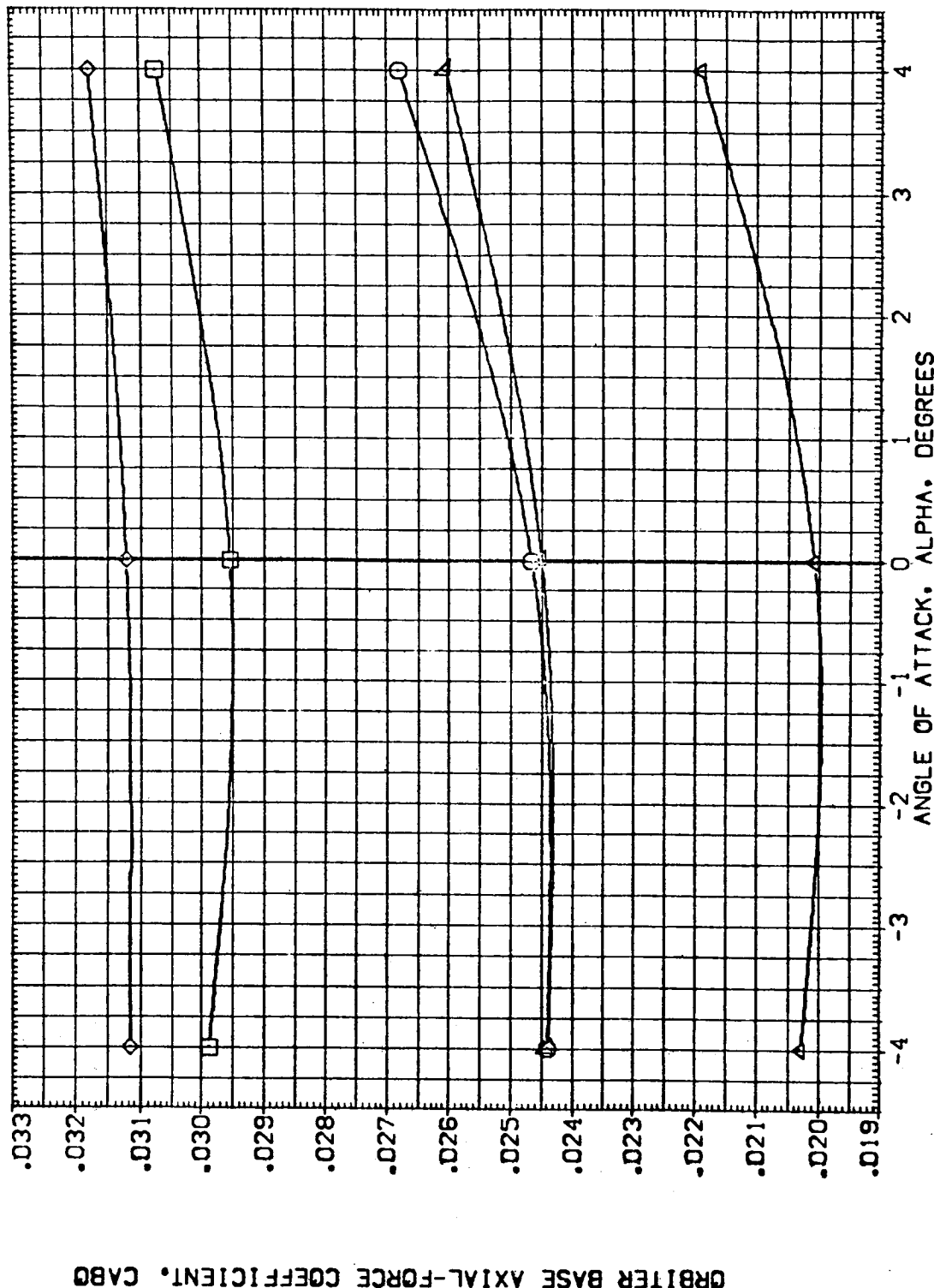


FIG. 6 EFFECT OF PLUMES - MACH=1.25 ELV-1B=8.0 ELV-0B=4.0 BETA=0.0

(A) BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[BEU003] ARC11-0141A19 OTS+STRUT SRB-OTF MPS-OTF
 [BEU007] ARC11-0141A19 OTS+STRUT SRB-OTF MPS-OTF
 [BEU011] ARC11-0141A19 OTS+STRUT SRB-OTF MPS-OTF
 [BEU015] ARC11-0141A19 OTS+STRUT SRB-OTF MPS-OTF
 [BEU019] ARC11-0141A19 OTS+STRUT SRB-OTF MPS-OTF

ELV-18 ELV-08 MACH GIMBAL

8.000 4.000 1.250 1.000
 8.000 4.000 1.250 1.000
 8.000 4.000 1.250 1.000
 8.000 4.000 1.250 1.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.F1.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP 400.0000 IN.
 ZMRP 400.0000 IN.
 SCALE .0200

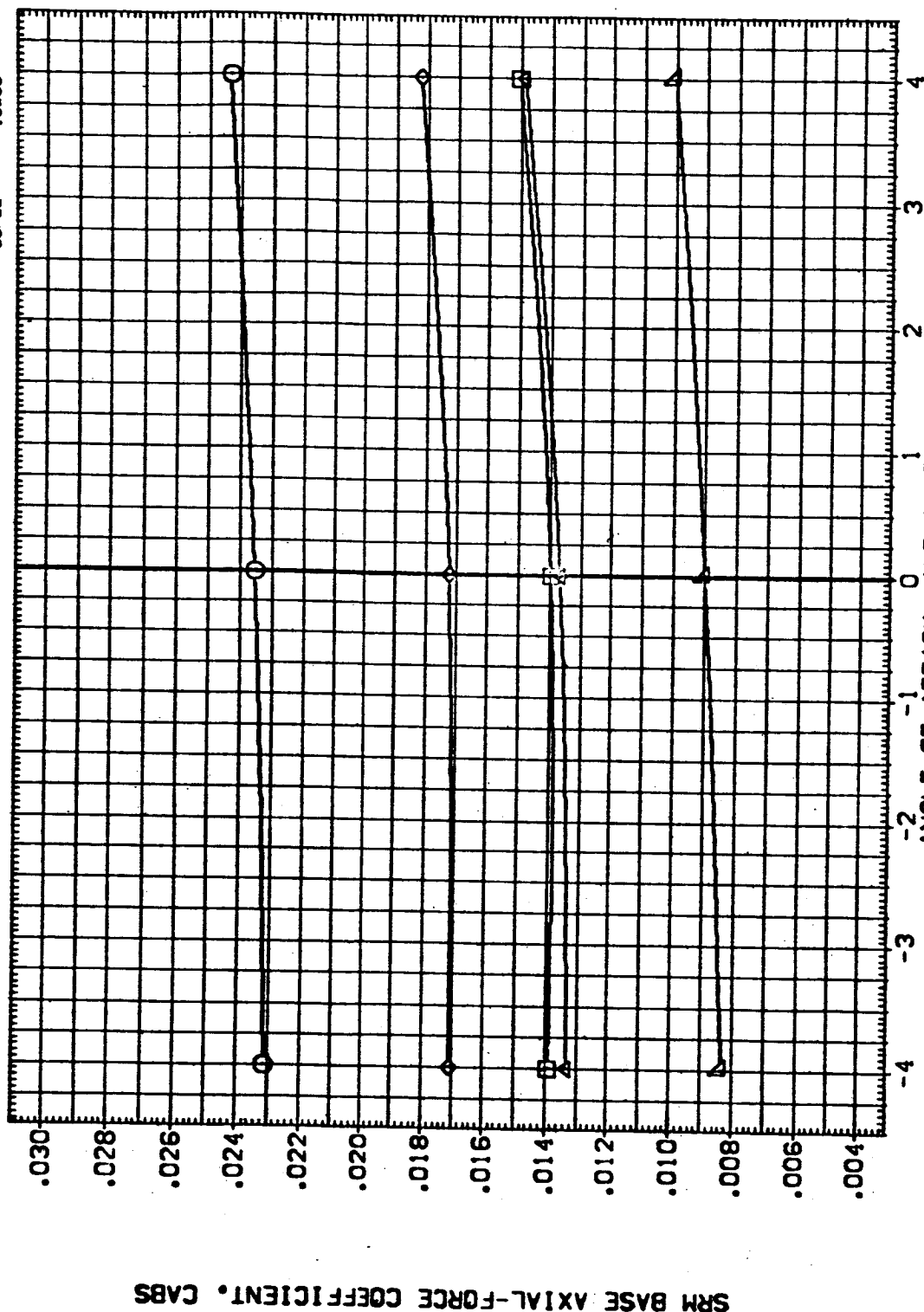


FIG. 6 EFFECT OF PLUMES - MACH=1.25 ELV-18=8.0 ELV-08=4.0 BETA=0.0

(A)BETA = .00

DATA SET SYMBOL: [BEU003] [BEU007] [BEU011] [BEU015] [BEU019]

CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS+STRUT SRB-OF MPS-OF
 ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM
 ARC11-0141A19 OTS+STRUT SRB-LOV MPS-LOV
 ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI

ELV-IB: 8.000 8.000 8.000 8.000 8.000

ELV-OB: 4.000 4.000 4.000 4.000 4.000

MACH: 1.250 1.250 1.250 1.250 1.250

GIMBAL: 1.000 1.000 1.000 1.000 1.000

REFERENCE INFORMATION: SREF 2630.0000 50.17. N. N. XT
 LREF 1290.3000 N. N. XT
 BREF 1290.3000 N. N. XT
 XMRP 576.0000 N. N. XT
 YMRP 400.0000 N. N. XT
 ZMRP 400.0000 N. N. XT
 SCALE .0200

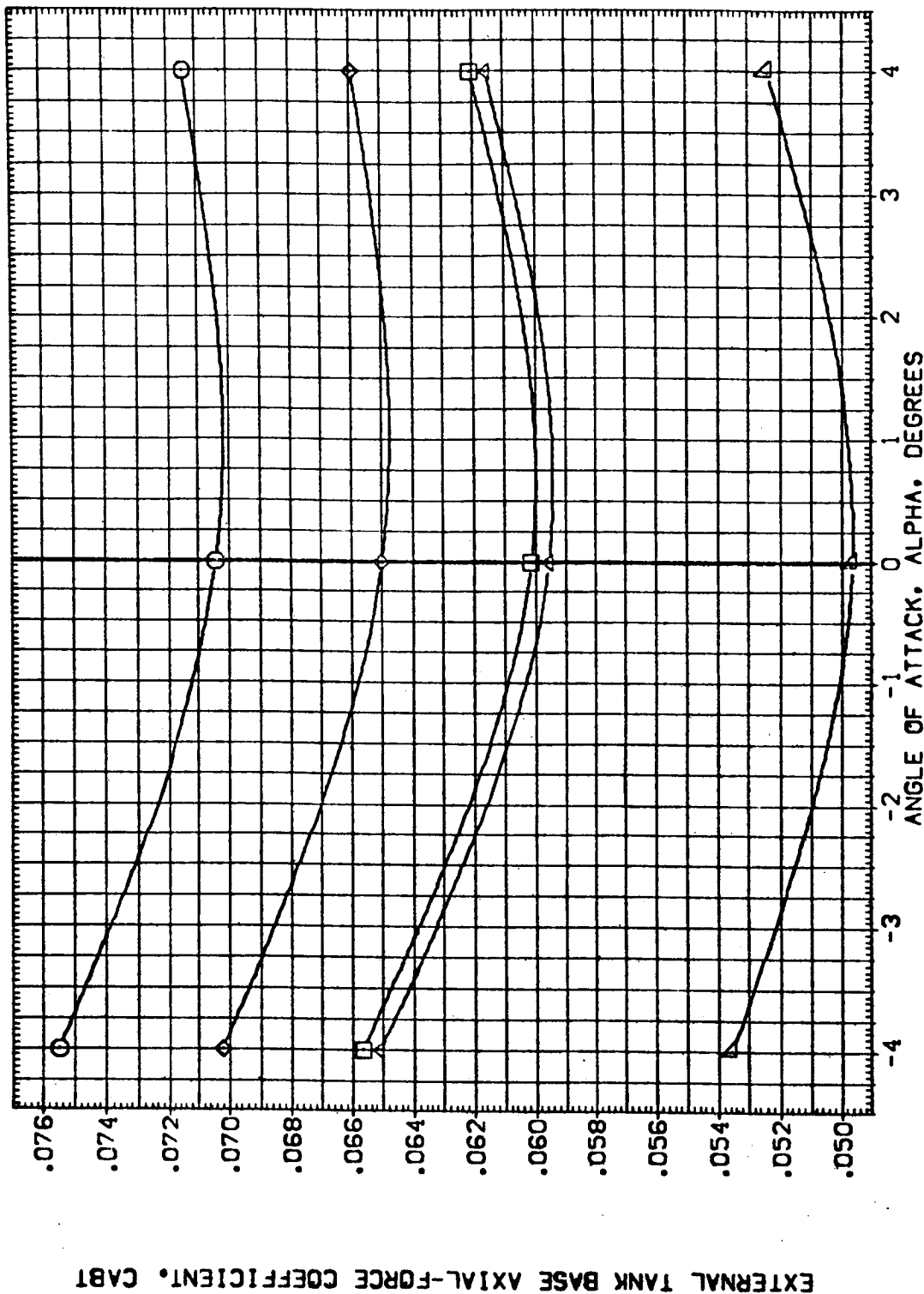


FIG. 6 EFFECT OF PLUMES - MACH=1.25 ELV-IB=8.0 ELV-OB=4.0 BETA=0.0

(A)BETA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	GINGAL	REFERENCE INFORMATION
{BEU004}	ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF	8.000	4.000	1.400	1.000	SREF 2030.0000 SQ.FT.
{BEU008}	ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM	8.000	4.000	1.400	1.000	LREF 1290.3000 IN.
{BEU012}	ARC11-0141A19 OTS+STRUT SRB-LOW MPS-NOM	8.000	4.000	1.400	1.000	BREF 1290.3000 IN.
{BEU016}	ARC11-0141A19 OTS+STRUT SRB-HI MPS-OFF	8.000	4.000	1.400	1.000	XMRP 576.0000 IN.
{BEU020}	ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI	8.000	4.000	1.400	1.000	YMRP 400.0000 IN.
						ZMRP 400.0000 IN.
						SCALE .0200

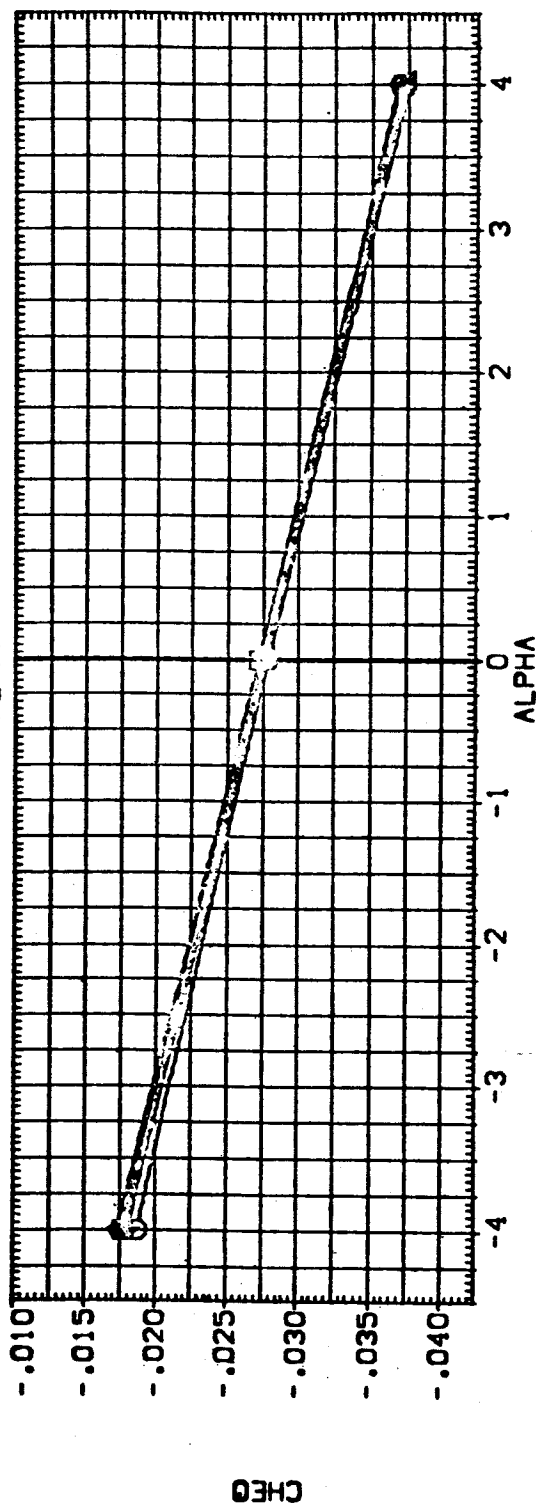
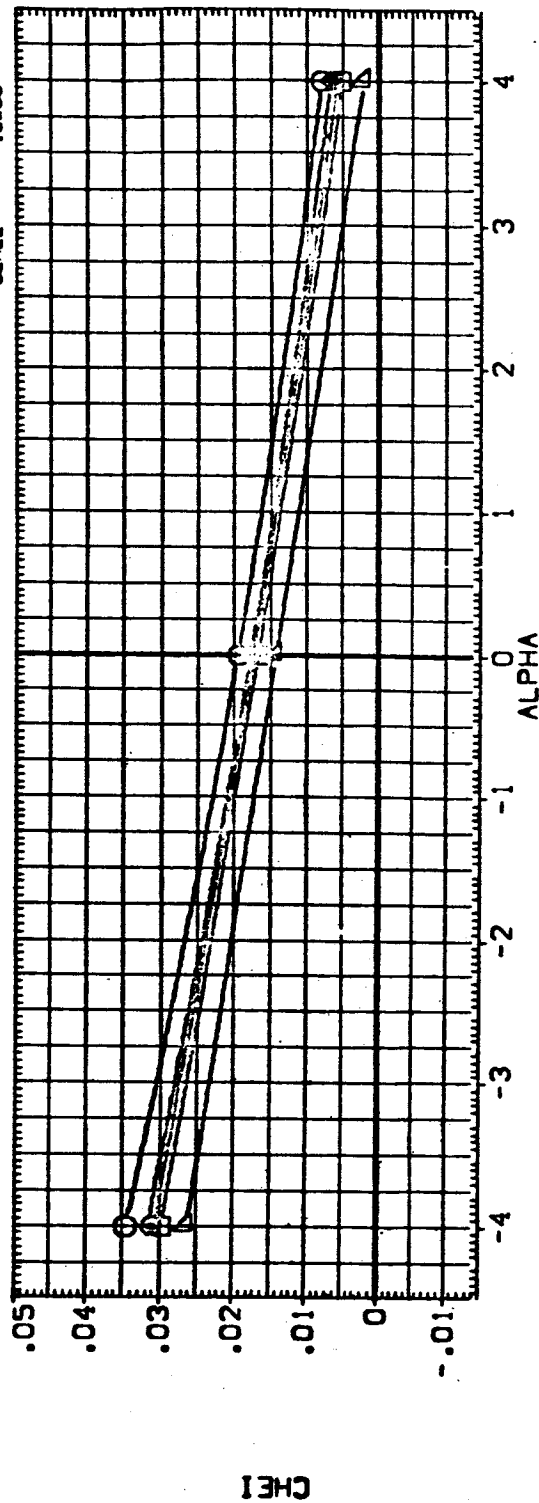
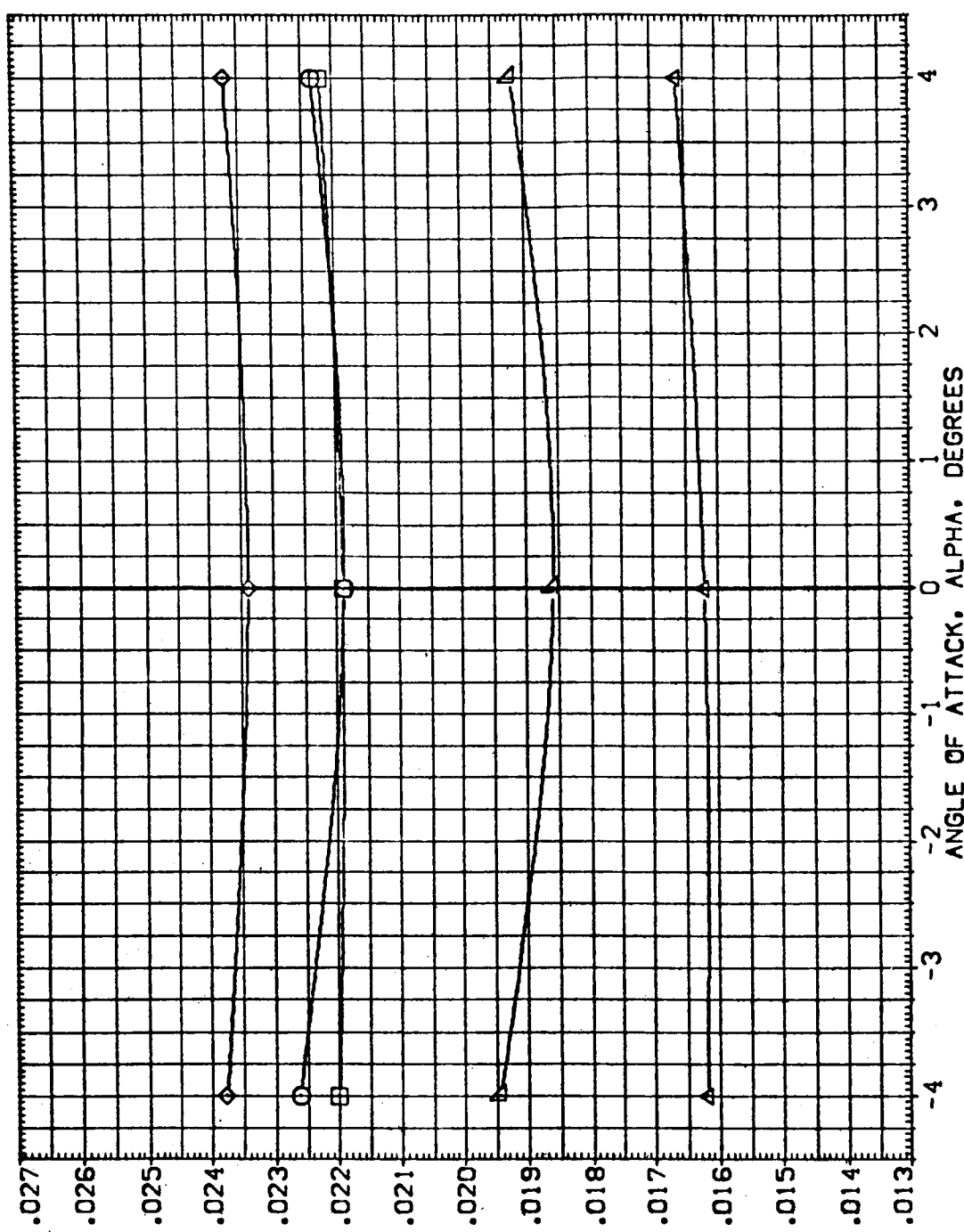


FIG. 7 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=4.0 BETA=0.0

(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION ELV-IB ELV-OB MACH GIMBAL REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	GIMBAL	REFERENCE INFORMATION
[BEU004]	ARC11-0141A19 OTS-STRUT SRB-OFF MPS-OFF	8.000	4.000	1.400	1.000	SREF 2690.0000 SQ.FT.
[BEU008]	ARC11-0141A19 OTS-STRUT SRB-NOM MPS-NOM	8.000	4.000	1.400	1.000	LREF 1290.3000 IN.
[BEU012]	ARC11-0141A19 OTS-STRUT SRB-LOW MPS-LOW	8.000	4.000	1.400	1.000	BREF 1290.3000 IN.
[BEU016]	ARC11-0141A19 OTS-STRUT SRB-NOM MPS-OFF	8.000	4.000	1.400	1.000	X-RRP 976.0000 IN.
[BEU020]	ARC11-0141A19 OTS-STRUT SRB-HI MPS-HI	8.000	4.000	1.400	1.000	Y-RRP 400.0000 IN.
						Z-RRP 400.0000 IN.
						SCALE .0200



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 7 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=4.0 BETA=0.0

(A)BETA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	Q/MBAL	REFERENCE INFORMATION
[BEU004]	ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF	8.000	4.000	1.400	1.000	SREF 2680.0000 50.F1.
[BEU008]	ARC11-0141A19 OTS+STRUT SRB-NOV MPS-NOV	8.000	4.000	1.400	1.000	LREF 1280.3000 IN.
[BEU012]	ARC11-0141A19 OTS+STRUT SRB-NOV MPS-NOV	8.000	4.000	1.400	1.000	BREF 1280.3000 IN.
[BEU016]	ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF	8.000	4.000	1.400	1.000	XMRP 976.0000 IN.
[BEU020]	ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI	8.000	4.000	1.400	1.000	YMRP .0000 IN.
						ZMRP 400.0000 IN.
						SCALE .0200

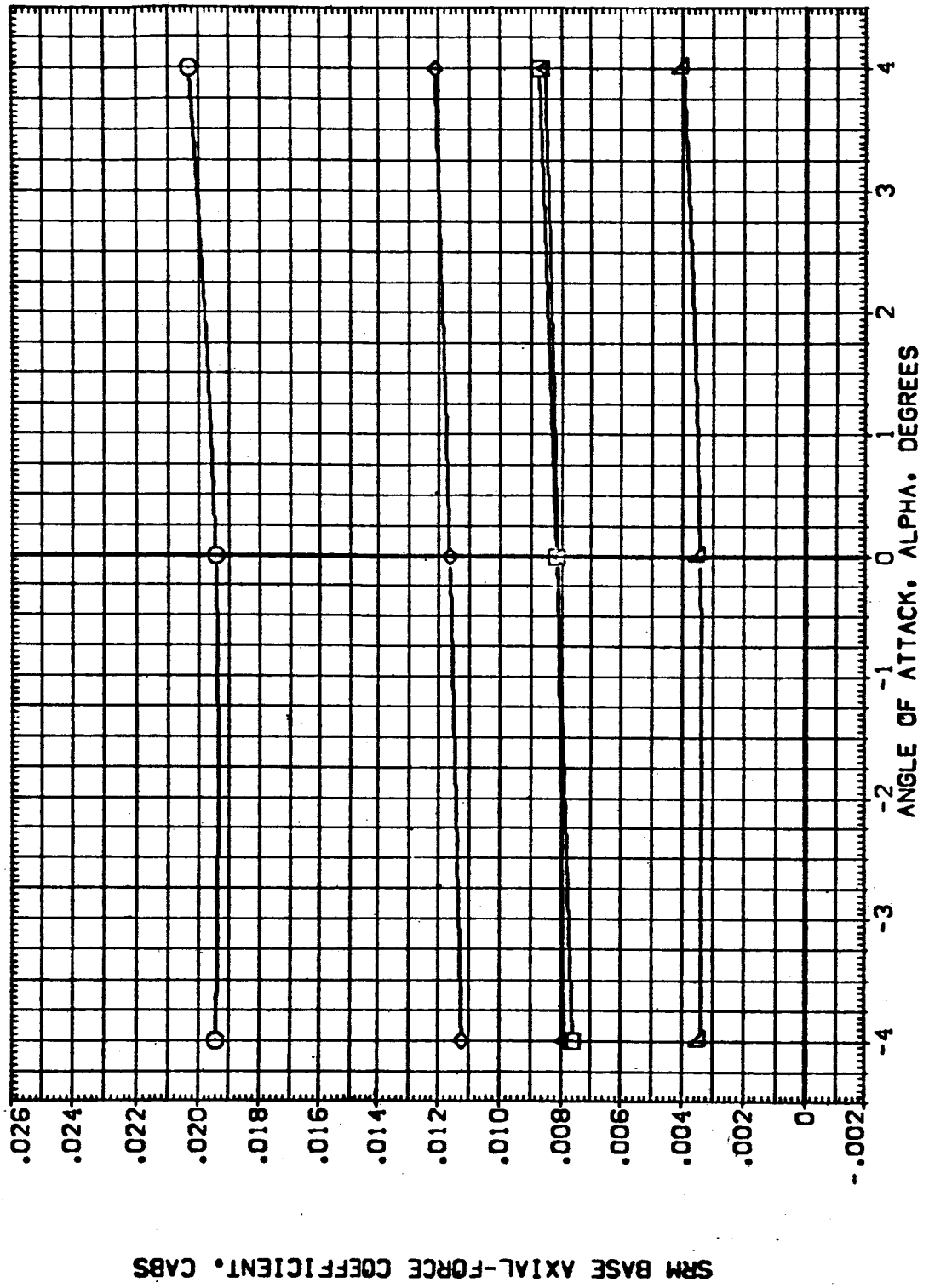


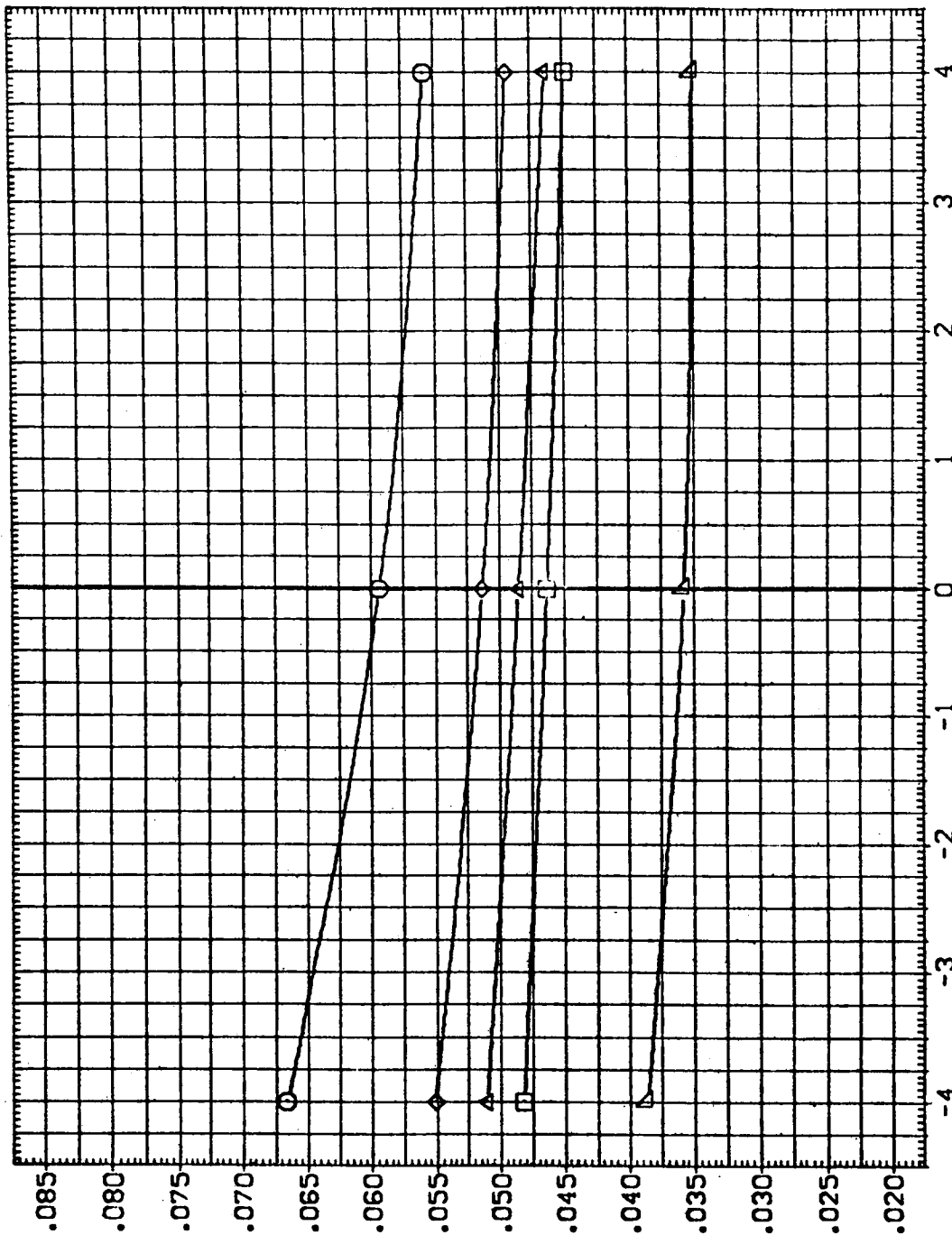
FIG. 7 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=4.0 BETA=0.0

(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-08	MACH	GIMBAL	REFERENCE INFORMATION
[BEU004]	ARC11-0141A19 OTS+STRUT SR8-0FF MPS-0FF	8.000	4.000	1.400	1.000	SREF 2690.0000 SQ.FT.
[BEU008]	ARC11-0141A19 OTS+STRUT SR8-NOM MPS-NOM	8.000	4.000	1.400	1.000	LREF 1290.3000 IN.
[BEU012]	ARC11-0141A19 OTS+STRUT SR8-LDV MPS-LDV	8.000	4.000	1.400	1.000	BREF 1290.3000 IN.
[BEU016]	ARC11-0141A19 OTS+STRUT SR8-NOM MPS-0FF	8.000	4.000	1.400	1.000	XMPR 976.0000 IN.
[BEU020]	ARC11-0141A19 OTS+STRUT SR8-HI MPS-HI	8.000	4.000	1.400	1.000	ZMPR 400.0000 IN.

SCALE .0200



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 7 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-08=4.0 BETA=0.0

(A)BETA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-18	ELV-08	MACH	GIMBAL	REFERENCE INFORMATION
(CEU001)	ARC -014 A19 QTS+STRUT SRB-OFF MPS-OFF	8.000	4.000	.900	1.000	SREF 2630.0000 SQ.FT.
(CEU005)	ARC -014 A19 QTS+STRUT SRB-NOM MPS-NOM	8.000	4.000	.900	1.000	LREF 1230.3000 IN.
(CEU009)	ARC -014 A19 QTS+STRUT SRB-LDV MPS-NOM	8.000	4.000	.900	1.000	BREF 1230.3000 IN.
(CEU013)	ARC -014 A19 QTS+STRUT SRB-NOM MPS-OFF	8.000	4.000	.900	1.000	XMRP 976.0000 IN.
(CEU017)	ARC -014 A19 QTS+STRUT SRB-HI MPS-HI	8.000	4.000	.900	1.000	YMRP 400.0000 IN.
						ZMRP 400.0000 IN.
						SCALE .0200

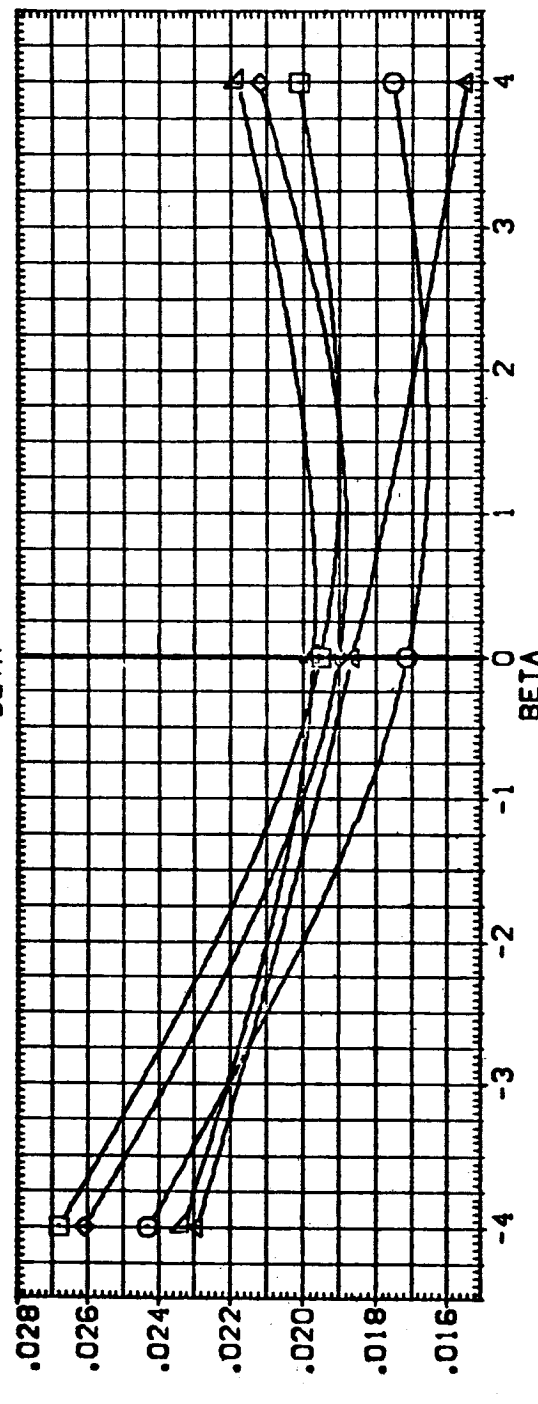
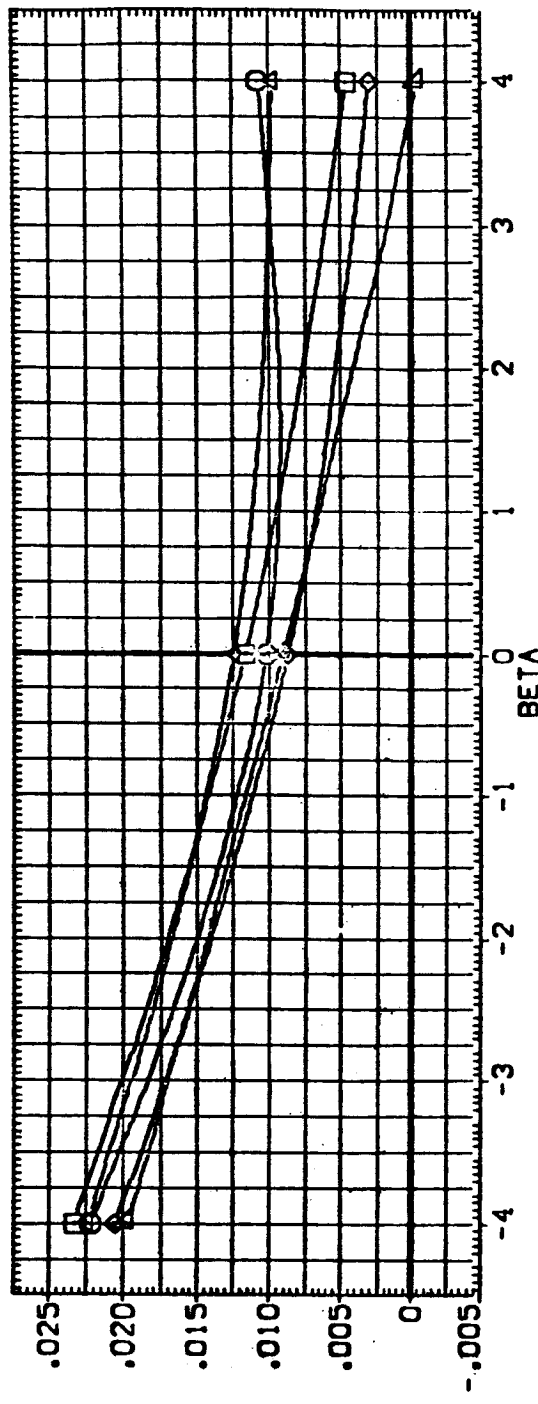


FIG. 8 EFFECT OF PLUMES - MACH=0.9 ELV-18=8.0 ELV-08=4.0 ALPHA=0.0
 (A) ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[CELO01] [CELO05] [CELO09] [CELO13] [CELO17]

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF
ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM
ARC11-0141A19 OTS+STRUT SRB-LDV MPS-LDV
ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF
ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI

ELV-18 8.000
ELV-08 4.000
MACH .900
GINBAL 1.000

REFERENCE INFORMATION
SREF 2630.0000 SQ.FT.
LREF 1290.3000 IN.
BREF 1290.3000 IN.
XMRP 976.0000 IN.
YMRP 400.0000 IN.
ZMRP 400.0000 IN.
SCALE .0200

ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

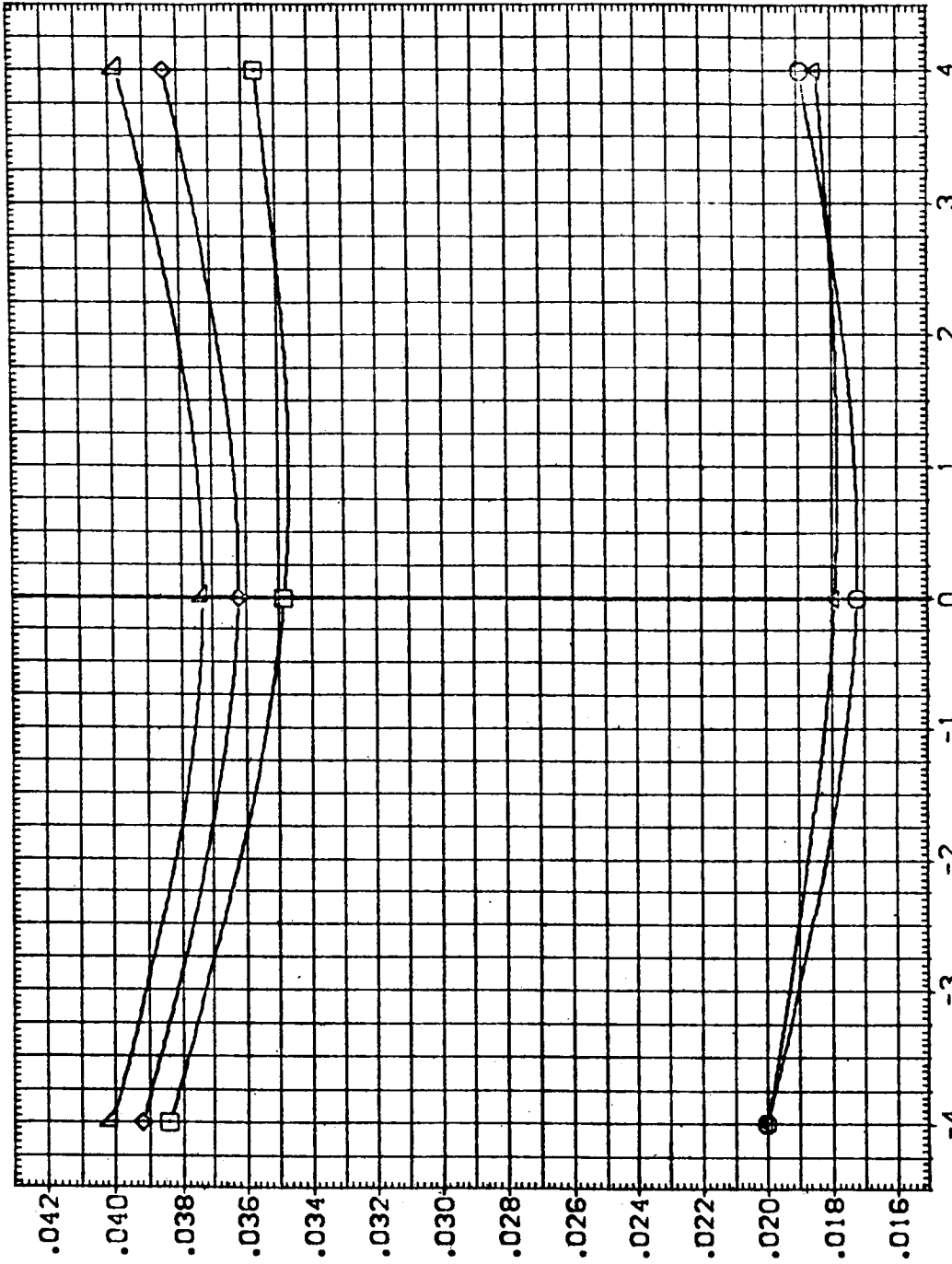


FIG. 8 EFFECT OF PLUMES - MACH=0.9 ELV-18=8.0 ELV-08=4.0 ALPHA=0.0

(A) ALPHA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	GIMBAL	REFERENCE INFORMATION
[CEU001]	ARC11-0141A19 OTS+STRUT SRB-OF FMS-OF	8.000	4.000	.500	1.000	SREF 2690.0000 SQ.FT.
[CEU005]	ARC11-0141A19 OTS+STRUT SRB-NCH FMS-NCH	8.000	4.000	.500	1.000	LREF 1290.3000 IN.
[CEU009]	ARC11-0141A19 OTS+STRUT SRB-LOV FMS-LOV	8.000	4.000	.500	1.000	BREF 1290.3000 IN.
[CEU013]	ARC11-0141A19 OTS+STRUT SRB-NCH FMS-OF	8.000	4.000	.500	1.000	XMRP 576.0000 IN. XT
[CEU017]	ARC11-0141A19 OTS+STRUT SRB-HI FMS-HI	8.000	4.000	.500	1.000	ZMRP 400.0000 IN. YT
						SCALE .0200

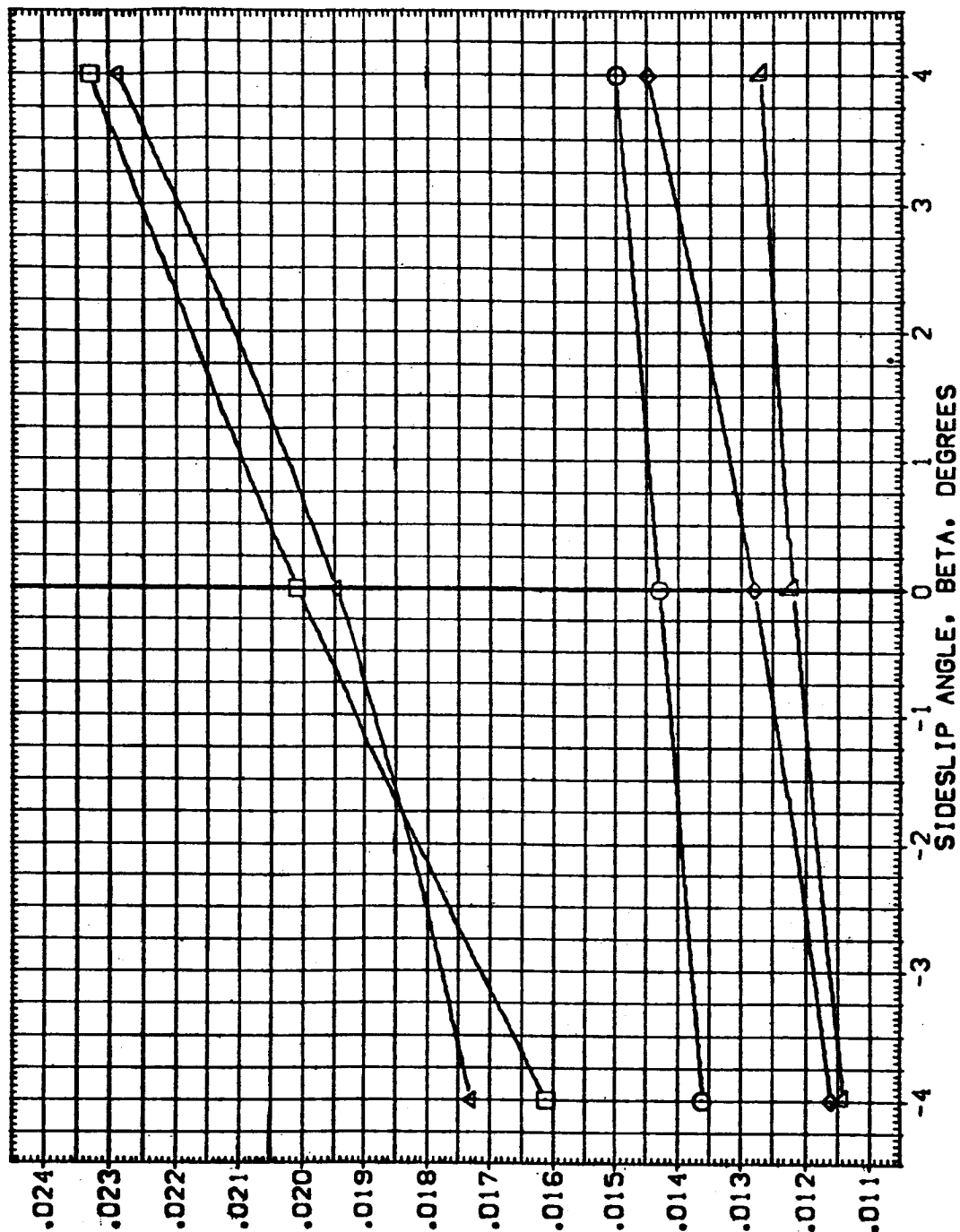


FIG. 8 EFFECT OF PLUMES - MACH=0.9 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0

(A) ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	GINBAL	REFERENCE INFORMATION	SQ.FT.
ARC11-0141A19	OTS+STRUT SRB-OFF MPS-OFF	8.000	4.000	.900	1.000	SREF	2690.0000
ARC11-0141A19	OTS+STRUT SRB-NOM MPS-NOM	8.000	4.000	.900	1.000	LREF	1290.3000
ARC11-0141A19	OTS+STRUT SRB-LOW MPS-NOM	8.000	4.000	.900	1.000	BREF	1290.3000
ARC11-0141A19	OTS+STRUT SRB-NOM MPS-OFF	8.000	4.000	.900	1.000	XMRP	576.0000
ARC11-0141A19	OTS+STRUT SRB-HI MPS-HI	8.000	4.000	.900	1.000	ZMRP	400.0000
ARC11-0141A19	OTS+STRUT SRB-HI MPS-HI	8.000	4.000	.900	1.000	SCALE	0.000

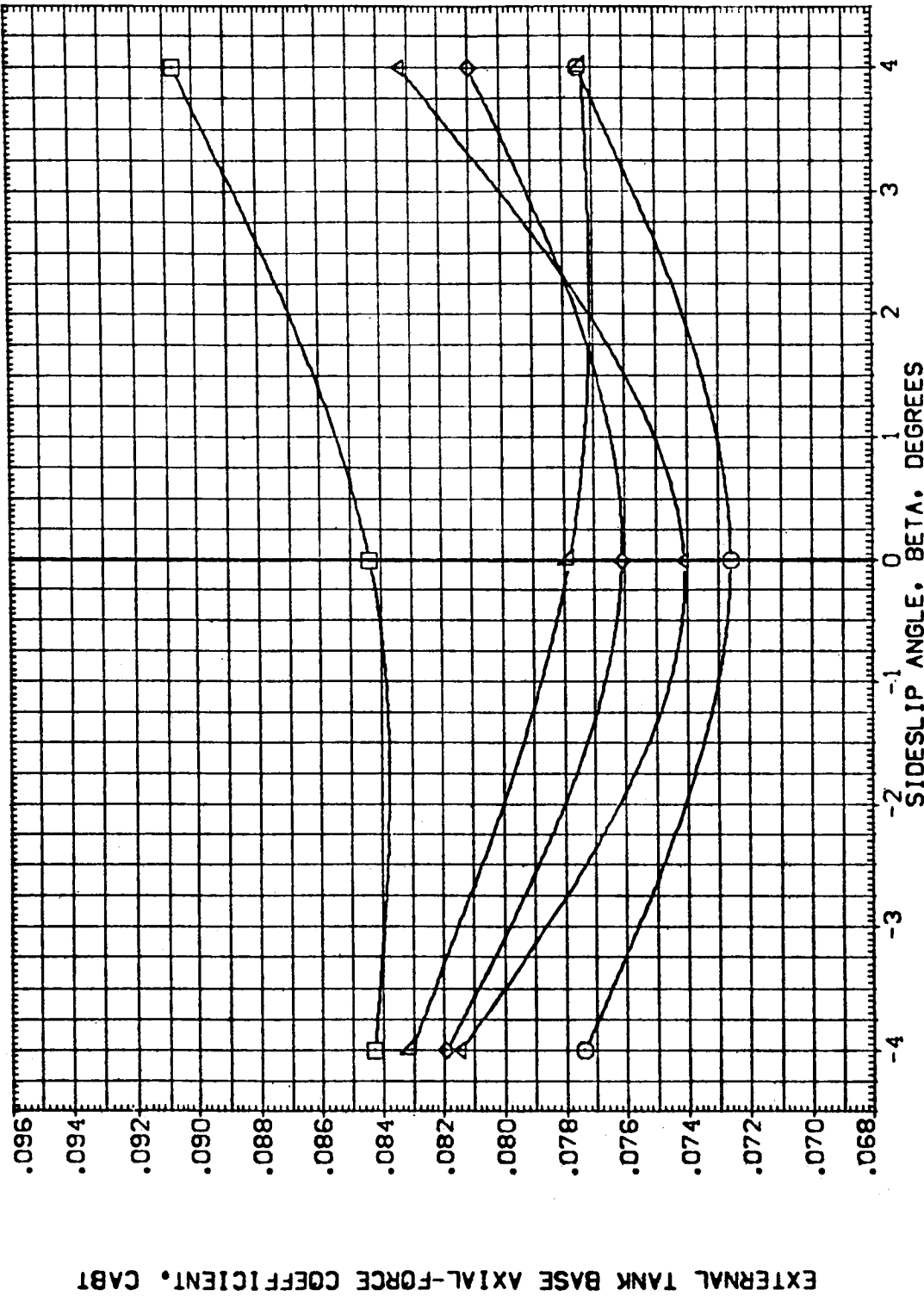
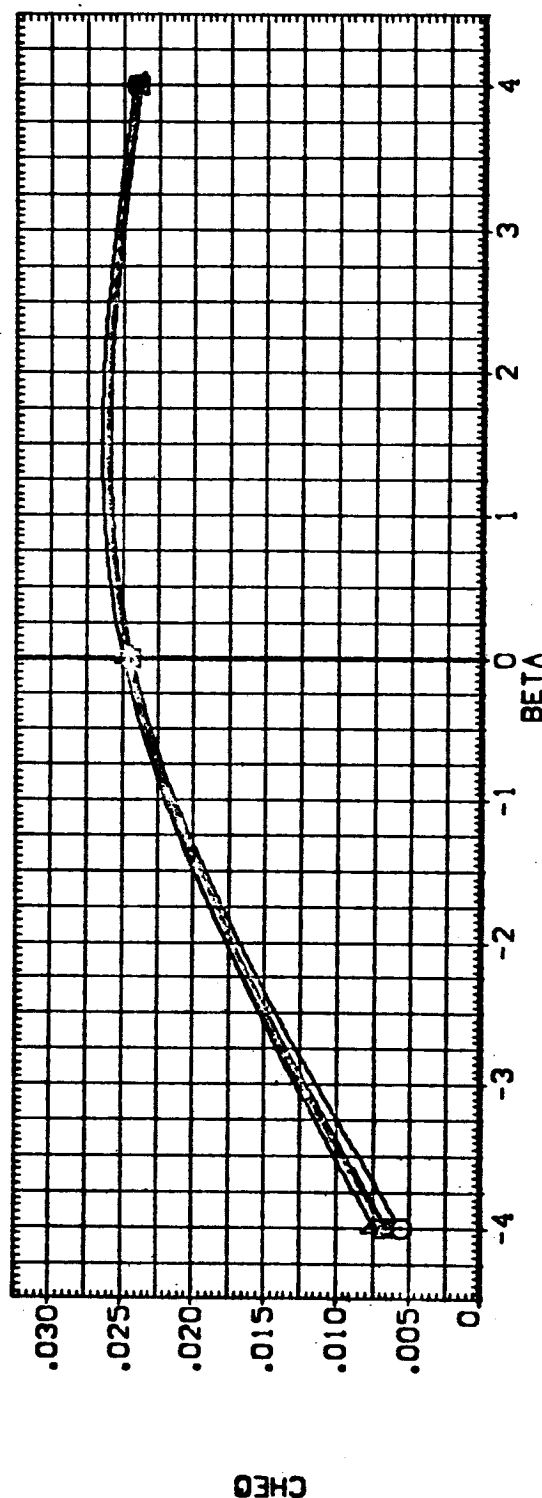
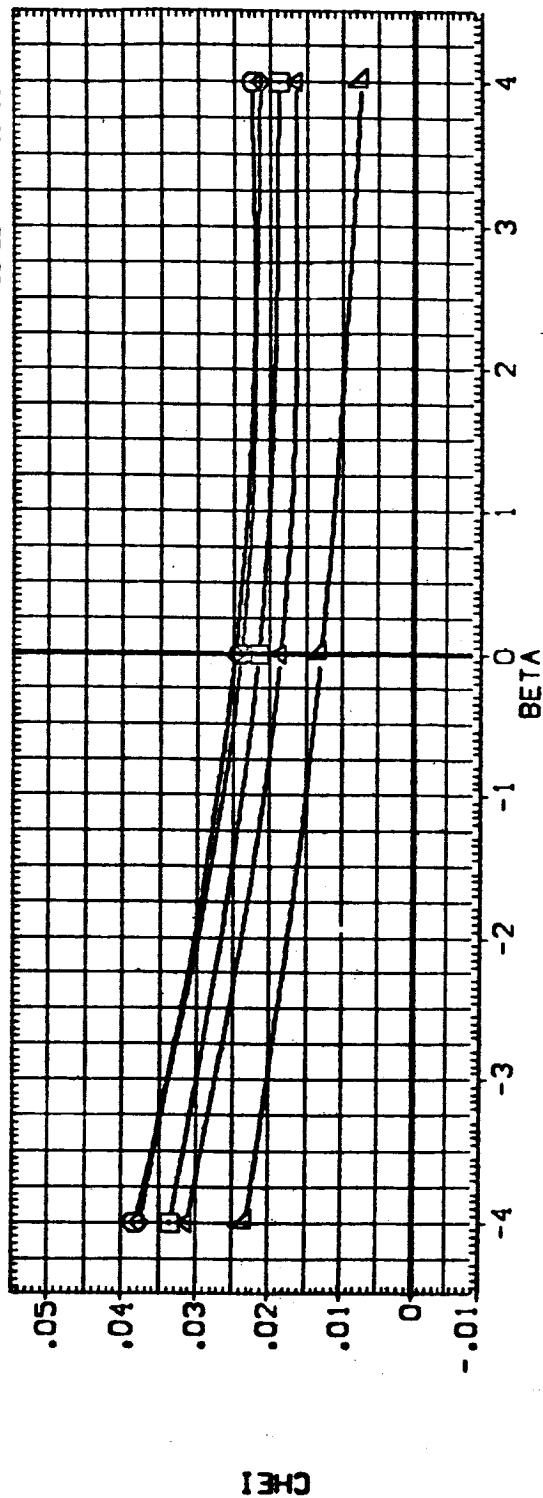


FIG. 8 EFFECT OF PLUMES - MACH=0.9 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0

(A) ALPHA = .00

REFERENCE INFORMATION	
SREF	2690.0000 \$0.F1.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	976.0000 IN. XT
YMRP	.0000 IN. YT
ZMRP	400.0000 IN. ZT
SCALE	.0200



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	GIMBAL	REFERENCE INFORMATION
[CELO02]	ARC11-0141A19 QTS+STRUT SRB-OF FPS-OF	8.000	4.000	1.100	1.000	2690.0000 SQ.FT.
[CELO05]	ARC11-0141A19 QTS+STRUT SRB-NOM FPS-NOM	8.000	4.000	1.100	1.000	1290.3000 IN.
[CELO10]	ARC11-0141A19 QTS+STRUT SRB-LOW FPS-NOM	8.000	4.000	1.100	1.000	1290.3000 IN.
[CELO14]	ARC11-0141A19 QTS+STRUT SRB-OF FPS-OF	8.000	4.000	1.100	1.000	976.0000 IN.
[CELO18]	ARC11-0141A19 QTS+STRUT SRB-HI FPS-HI	8.000	4.000	1.100	1.000	400.0000 IN.
						ZMRP
						SCALE .0200

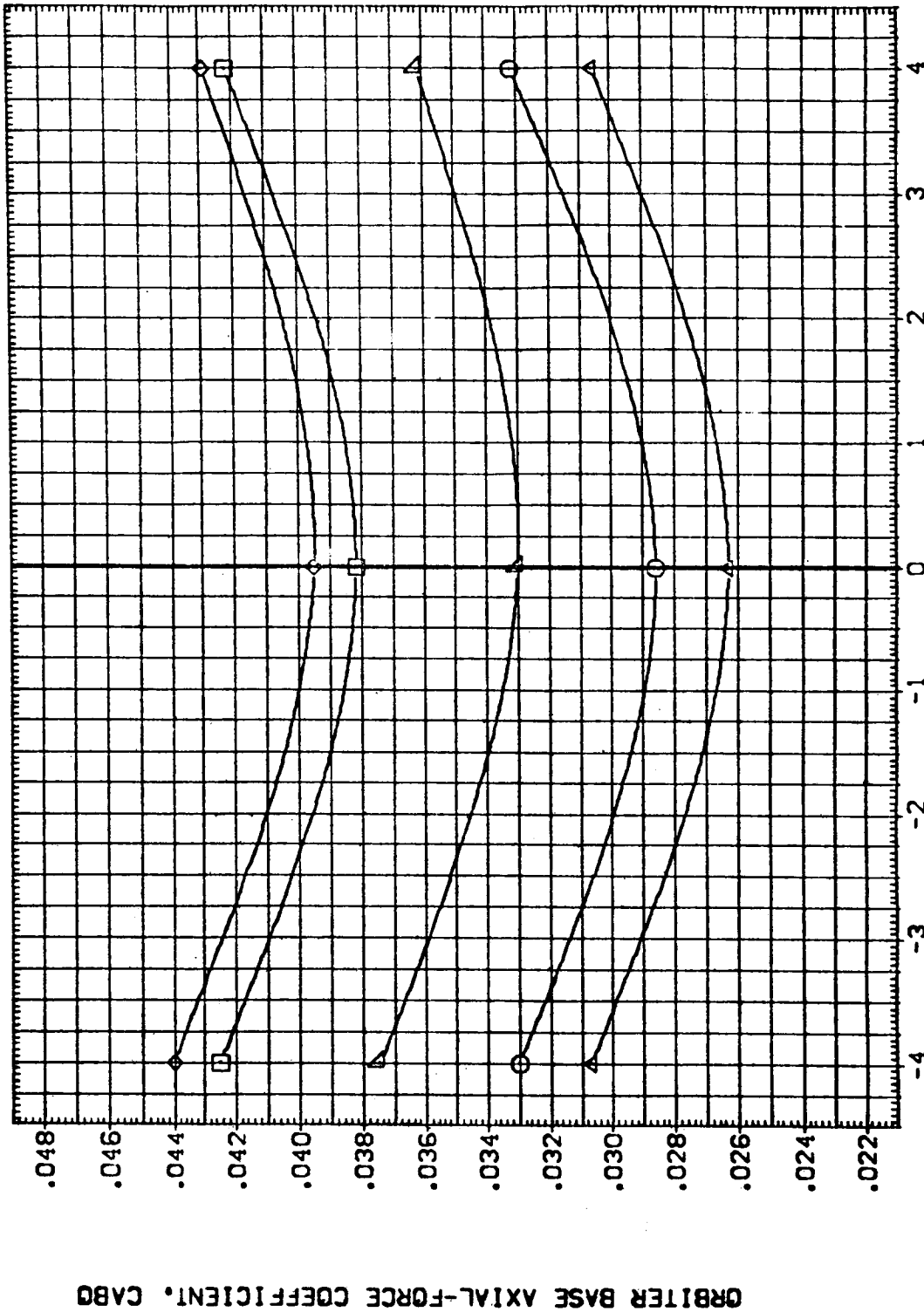


FIG. 9 EFFECT OF PLUMES - MACH=1.1 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0

(A) ALPHA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	01MBAL	REFERENCE INFORMATION
[CELO02]	ARC11-0141A19 OTS+STRUT SRB-0FF MPS-0FF	8.000	4.000	1.100	1.000	SREF 2630.0000 SQ.FT.
[CELO06]	ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM	8.000	4.000	1.100	1.000	LREF 1290.3000 IN.
[CELO10]	ARC11-0141A19 OTS+STRUT SRB-LOW MPS-NOM	8.000	4.000	1.100	1.000	BREF 1290.3000 IN.
[CELO14]	ARC11-0141A19 OTS+STRUT SRB-NOM MPS-0FF	8.000	4.000	1.100	1.000	XMRP 976.0000 IN.
[CELO18]	ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI	8.000	4.000	1.100	1.000	ZMRP 400.0000 IN.
						SCALE .0200

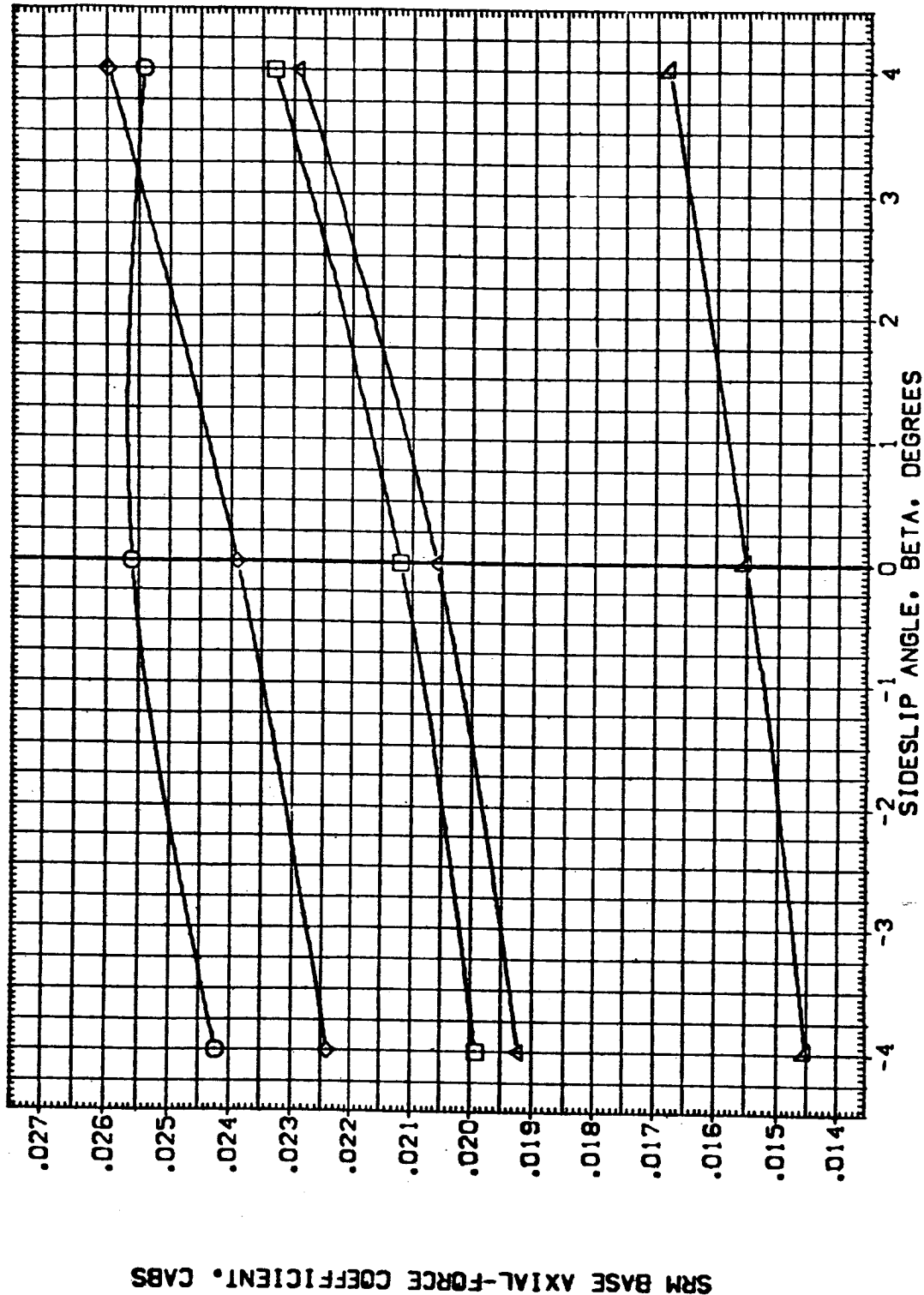


FIG. 9 EFFECT OF PLUMES - MACH=1.1 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0

CALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION ELV-1B ELV-0B MACH GIMBAL REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GIMBAL	SREF	LREF	BREF	XMRP	YMRP	ZMRP	SCALE
[CELO02]	ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF	8.000	4.000	1.00	1.000	2690.0000	1.000	1.000	1.000	1.000	400.0000	.0200
[CELO06]	ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM	8.000	4.000	1.00	1.000	2690.0000	1.000	1.000	1.000	1.000	400.0000	.0200
[CELO10]	ARC11-0141A19 OTS+STRUT SRB-LDV MPS-NOM	8.000	4.000	1.00	1.000	2690.0000	1.000	1.000	1.000	1.000	400.0000	.0200
[CELO14]	ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF	8.000	4.000	1.00	1.000	2690.0000	1.000	1.000	1.000	1.000	400.0000	.0200
[CELO18]	ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI	8.000	4.000	1.00	1.000	2690.0000	1.000	1.000	1.000	1.000	400.0000	.0200

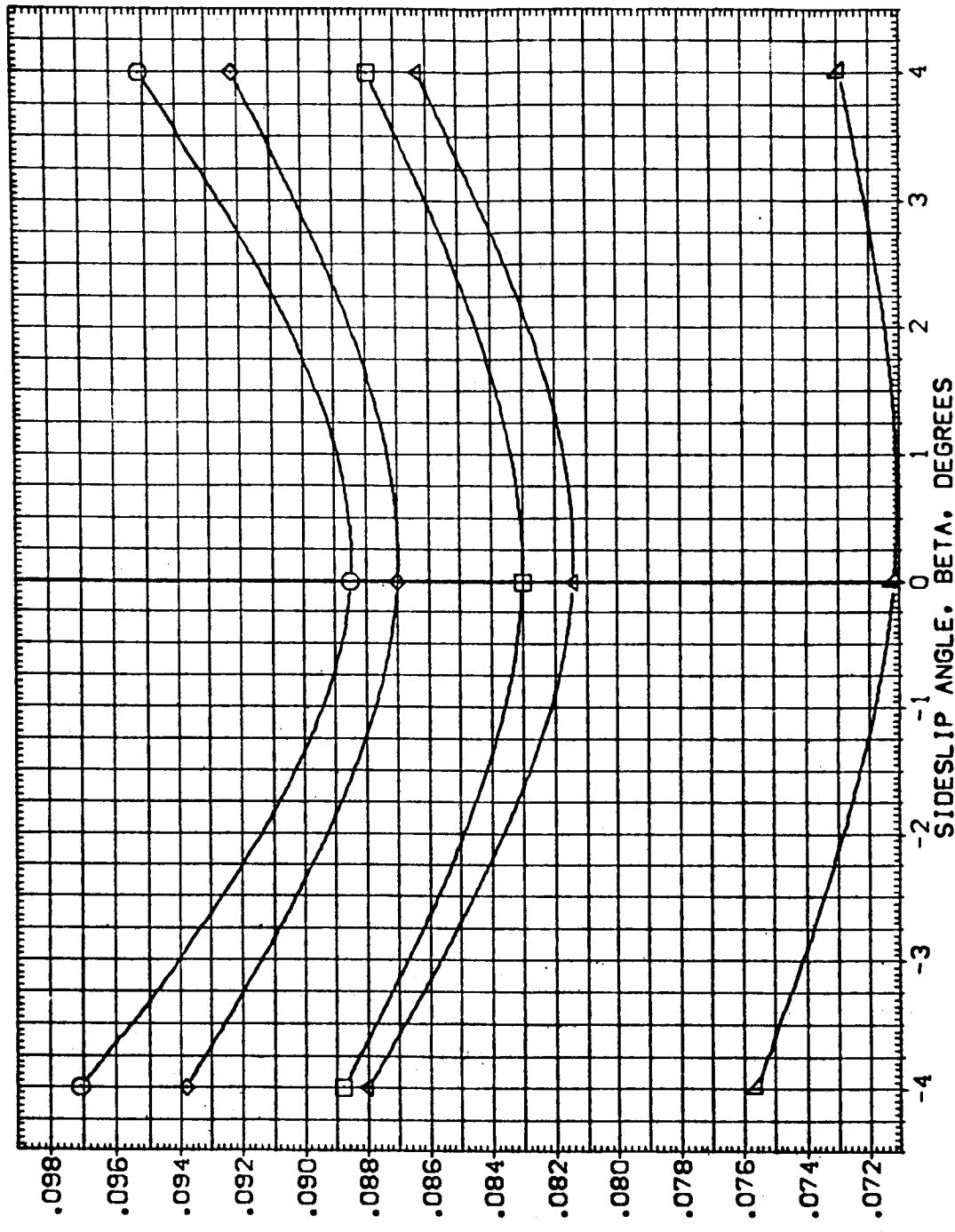


FIG. 9 EFFECT OF PLOMES - MACH=1.1 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0
 (A) ALPHA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	GINBAL	REFERENCE INFORMATION
{CEU003}	ARC11-0141A19 OTS+STRUT S98-OF F	8.000	4.000	1.250	1.000	SREF 2690.0000 SQ.F1.
{CEU007}	ARC11-0141A19 OTS+STRUT S98-NOM	8.000	4.000	1.250	1.000	LREF 1290.3000 IN.
{CEU011}	ARC11-0141A19 OTS+STRUT S98-LOW	8.000	4.000	1.250	1.000	BREF 1290.3000 IN.
{CEU015}	ARC11-0141A19 OTS+STRUT S98-NOM	8.000	4.000	1.250	1.000	XMPR 976.0000 IN. XT
{CEU019}	ARC11-0141A19 OTS+STRUT S98-NOM	8.000	4.000	1.250	1.000	YMPR 100.0000 IN. YT
						SCALE .0300

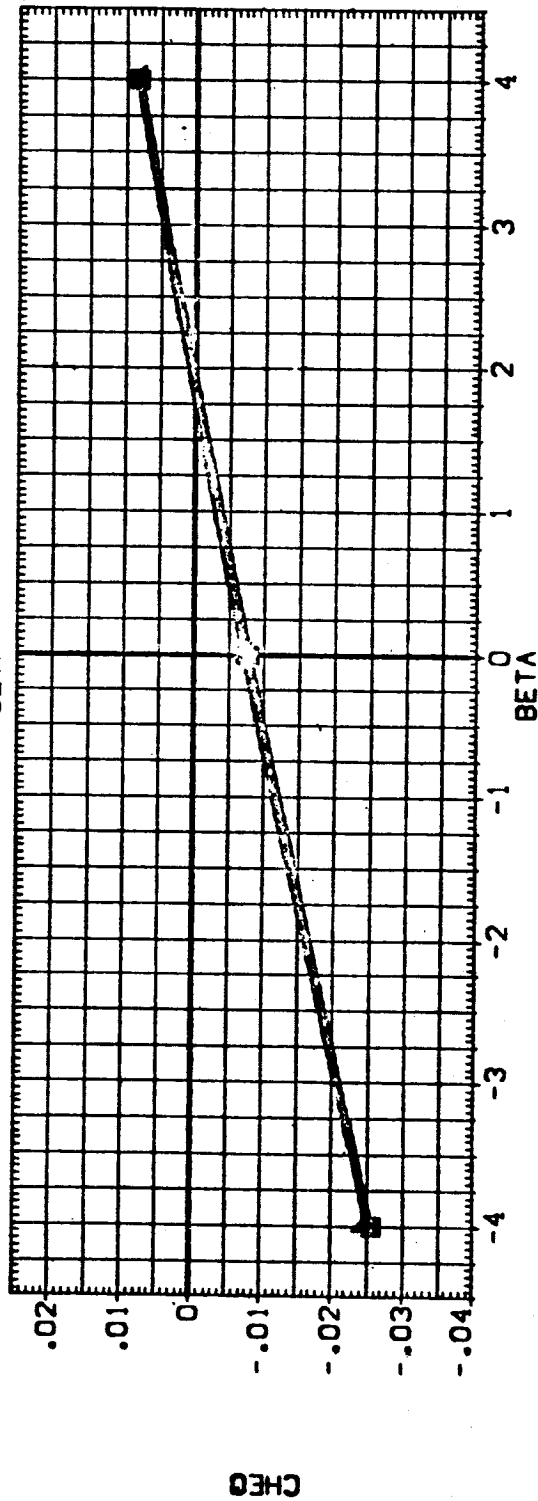
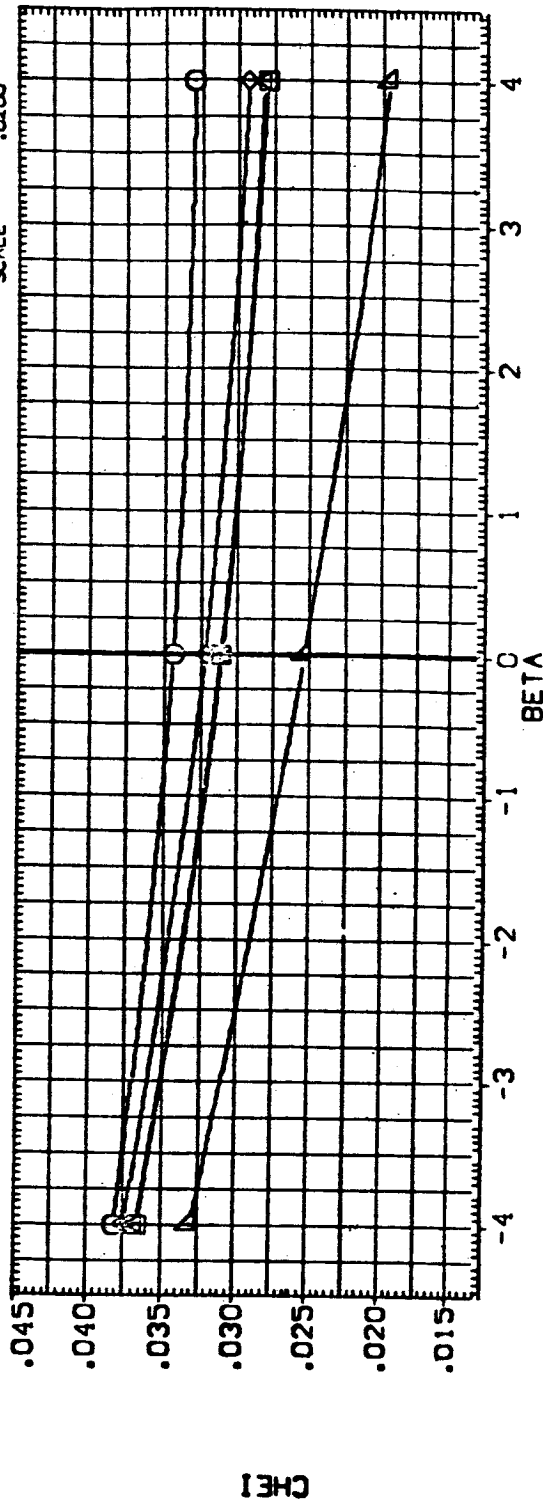


FIG. 10 EFFECT OF PLUMES - MACH=1.25 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0

(ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	GM-BAL	REFERENCE INFORMATION	SG, FT.
[CELO03]	ARC11-0141A19 OTS-STRUT SRB-OF FFS-OF	8.000	4.000	1.250	1.000	SREF	2690.0000
[CELO07]	ARC11-0141A19 OTS-STRUT SRB-NOM FFS-NOM	8.000	4.000	1.250	1.000	LREF	1290.3000
[CELO11]	ARC11-0141A19 OTS-STRUT SRB-LOW FFS-LOW	8.000	4.000	1.250	1.000	BREF	1290.3000
[CELO15]	ARC11-0141A19 OTS-STRUT SRB-NOM FFS-OF	8.000	4.000	1.250	1.000	XMRP	976.0000
[CELO19]	ARC11-0141A19 OTS-STRUT SRB-HI FFS-HI	8.000	4.000	1.250	1.000	ZMRP	400.0000

SCALE .0200

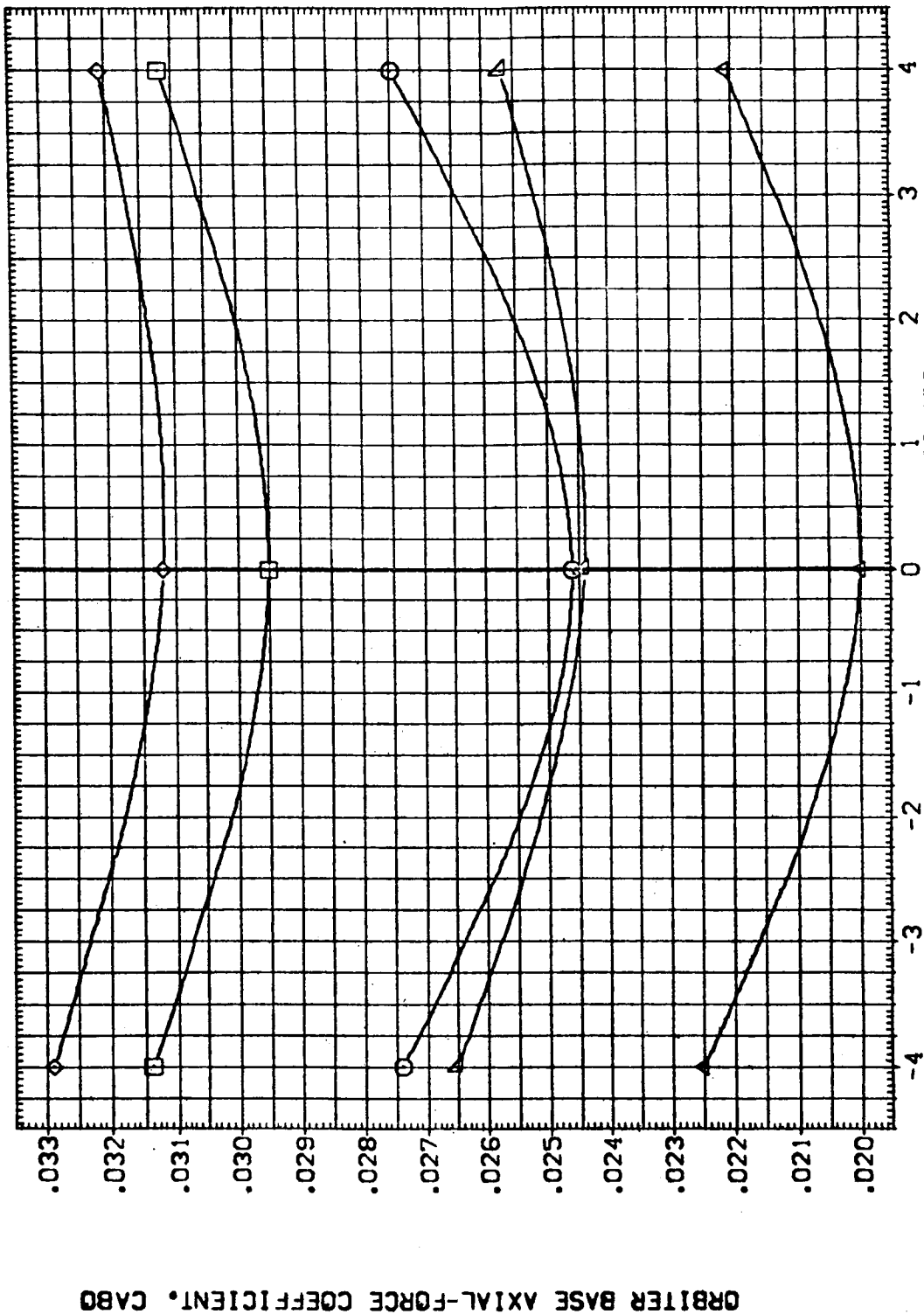


FIG. 10 EFFECT OF PLUMES - MACH=1.25 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0

(A) ALPHA = .00



DATA SET SYMBOL. CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	Q/MBAL	REFERENCE INFORMATION
[CEU003]	ARC11-0141A19 OTS+STRUT SRB-OF MPS-OF	8.000	4.000	1.250	1.000	SREF 2690.0000 SQ.Ft.
[CEU007]	ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM	8.000	4.000	1.250	1.000	LREF 1790.3000 IN.
[CEU011]	ARC11-0141A19 OTS+STRUT SRB-LOV MPS-LOV	8.000	4.000	1.250	1.000	BREF 1290.3000 IN.
[CEU015]	ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OF	8.000	4.000	1.250	1.000	XMRP 976.0000 IN. XT
[CEU019]	ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI	8.000	4.000	1.250	1.000	YMRP 400.0000 IN. YT

SCALE .0200

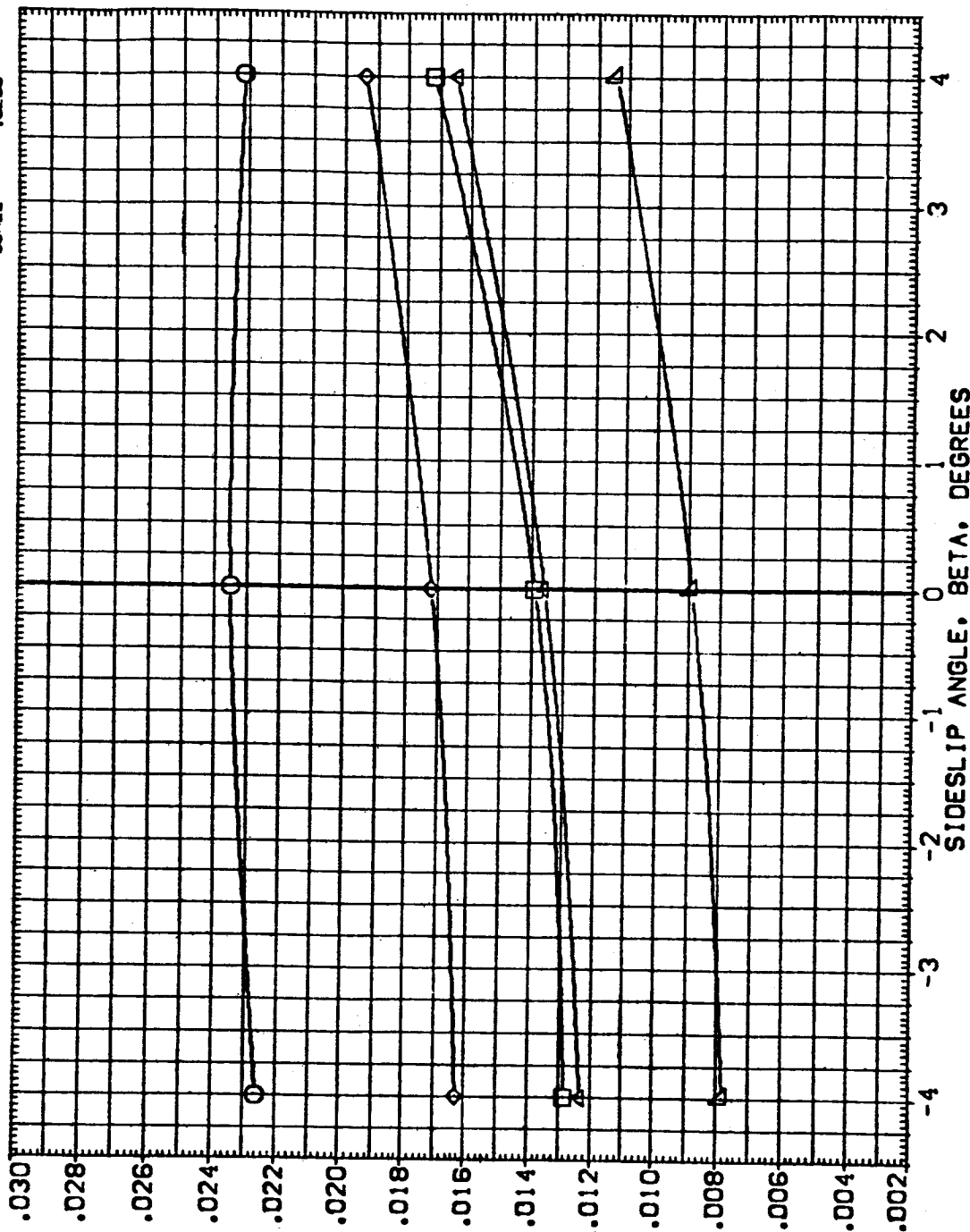


FIG. 10 EFFECT OF PLUMES - MACH=1.25 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0
(A) ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION ELV-IB ELV-OB MACH GIMBAL REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	GIMBAL	REFERENCE INFORMATION
[CEU003]	ARC11-0141A19 OTS+STRUT SRB-OTS MPS-OTS	8.000	4.000	1.250	1.000	SREF 2690.0000 IN. S0.FT.
[CEU007]	ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM	8.000	4.000	1.250	1.000	LREF 1290.3000 IN.
[CEU011]	ARC11-0141A19 OTS+STRUT SRB-LOV MPS-LOV	8.000	4.000	1.250	1.000	BREF 1290.3000 IN. XT
[CEU015]	ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OTS	8.000	4.000	1.250	1.000	YMRP 576.0000 IN. YT
[CEU019]	ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI	8.000	4.000	1.250	1.000	ZMRP 400.0000 IN. ZT

SCALE .0200

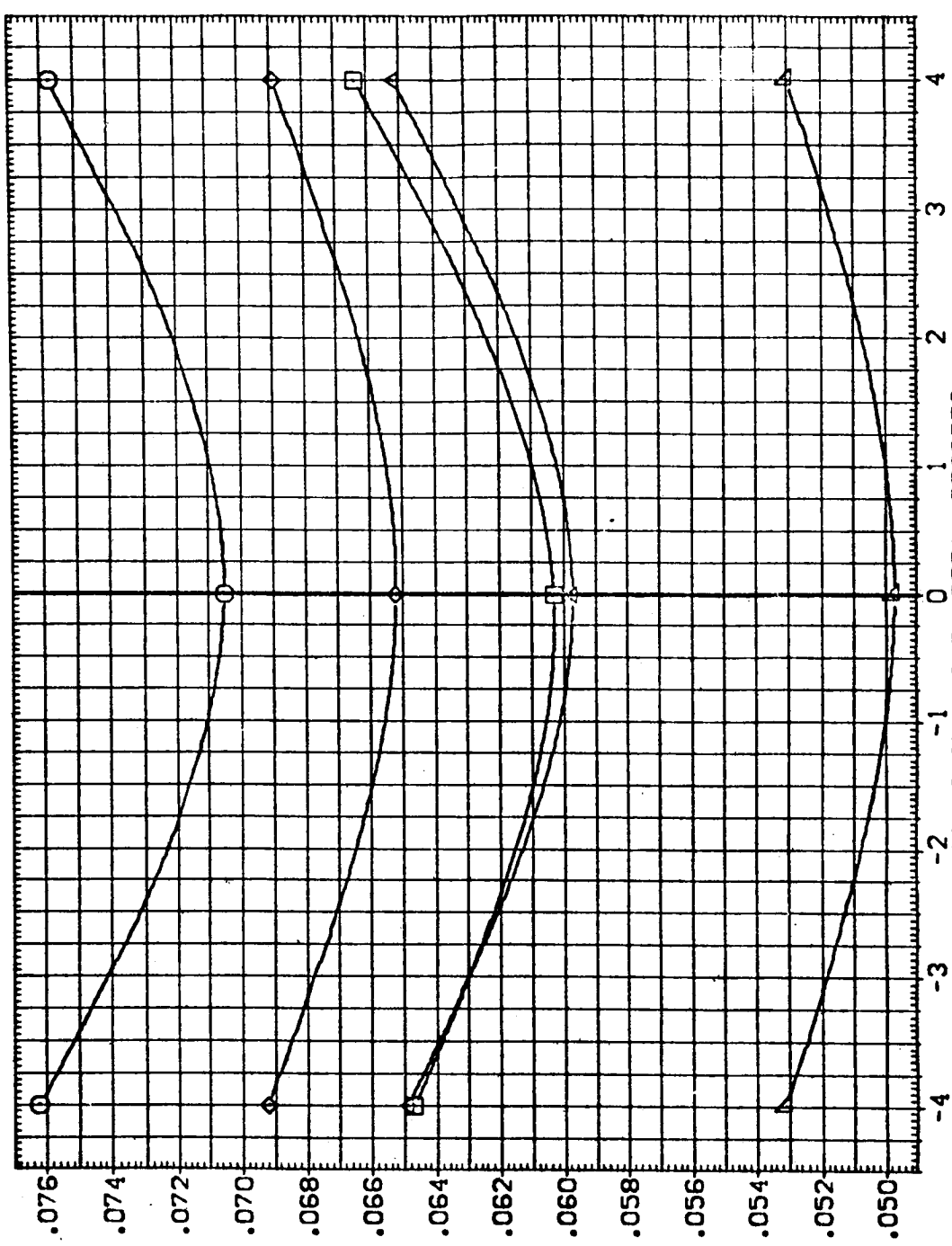


FIG. 10 EFFECT OF PLOMES - MACH=1.25 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0

(A)ALPHA = .00



DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GIMBAL	REFERENCE INFORMATION	SO.F1.
{CEU004}		ARC11-0141A19 OTS+STRUT SRB-0FF MPS-0FF	8.000	4.000	1.400	1.000	SREF 2690.0000	IN.
{CEU008}		ARC11-0141A19 OTS+STRUT SRB-0FF MPS-0FF	8.000	4.000	1.400	1.000	LREF 1290.3000	IN.
{CEU012}		ARC11-0141A19 OTS+STRUT SRB-0FF MPS-0FF	8.000	4.000	1.400	1.000	BREF 1290.3000	IN.
{CEU016}		ARC11-0141A19 OTS+STRUT SRB-0FF MPS-0FF	8.000	4.000	1.400	1.000	YMRP 576.0000	IN.
{CEU020}		ARC11-0141A19 OTS+STRUT SRB-0FF MPS-0FF	8.000	4.000	1.400	1.000	ZMRP 400.0000	IN.
							SCALE	.0200

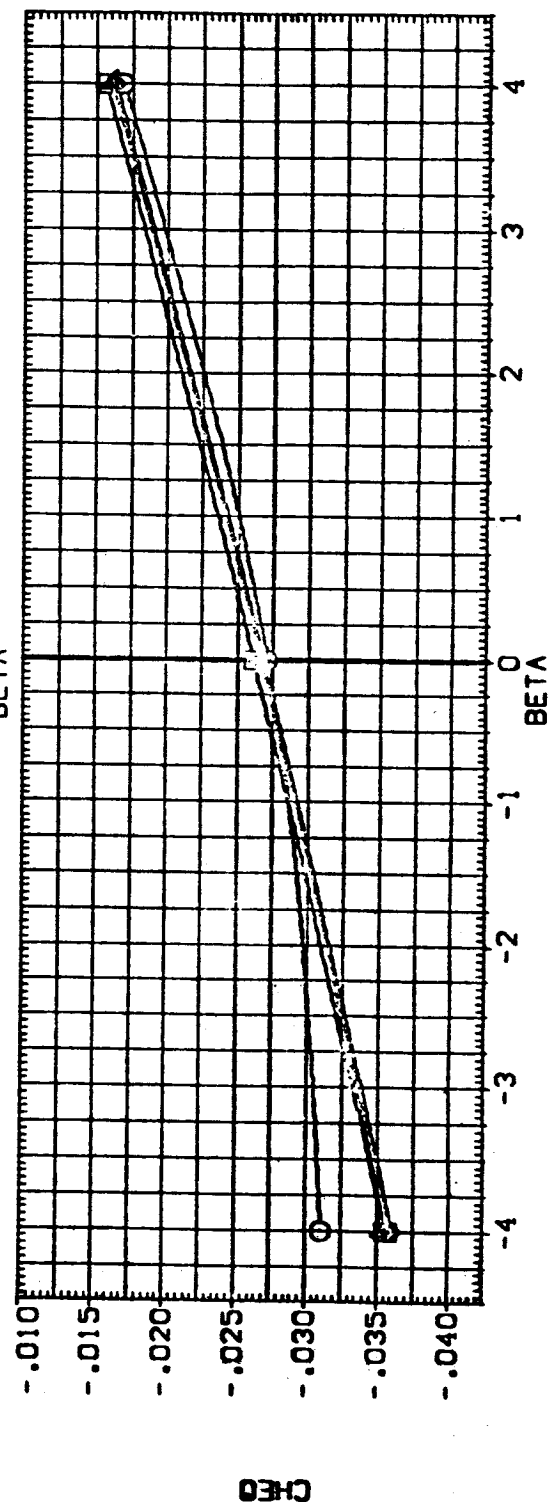
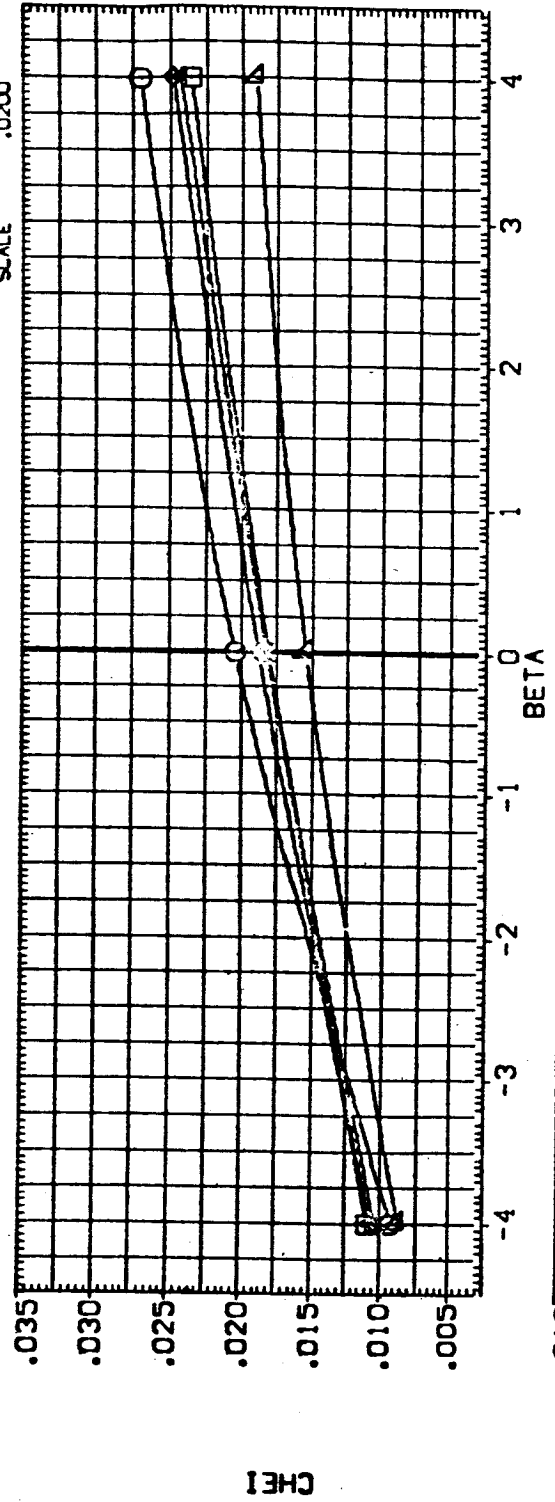


FIG. 11 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0
 (A) ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	GIMBAL	REFERENCE INFORMATION
[CELO04]	ARC11-0141A19 OTS-STRUT SRB-OFF MPS-OFF	8.000	4.000	1.400	1.000	SREF 2650.0000 SQ.FT.
[CELO08]	ARC11-0141A19 OTS-STRUT SRB-NOM MPS-NOM	8.000	4.000	1.400	1.000	LREF 1290.3000 IN.
[CELO12]	ARC11-0141A19 OTS-STRUT SRB-LOW MPS-NOM	8.000	4.000	1.400	1.000	BREF 1290.3000 IN.
[CELO16]	ARC11-0141A19 OTS-STRUT SRB-NOM MPS-OFF	8.000	4.000	1.400	1.000	XMRP 975.0000 IN.
[CELO20]	ARC11-0141A19 OTS-STRUT SRB-HI MPS-HI	8.000	4.000	1.400	1.000	YMRP 400.0000 IN.
						ZMRP 400.0000 IN.
						SCALE .0200

ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

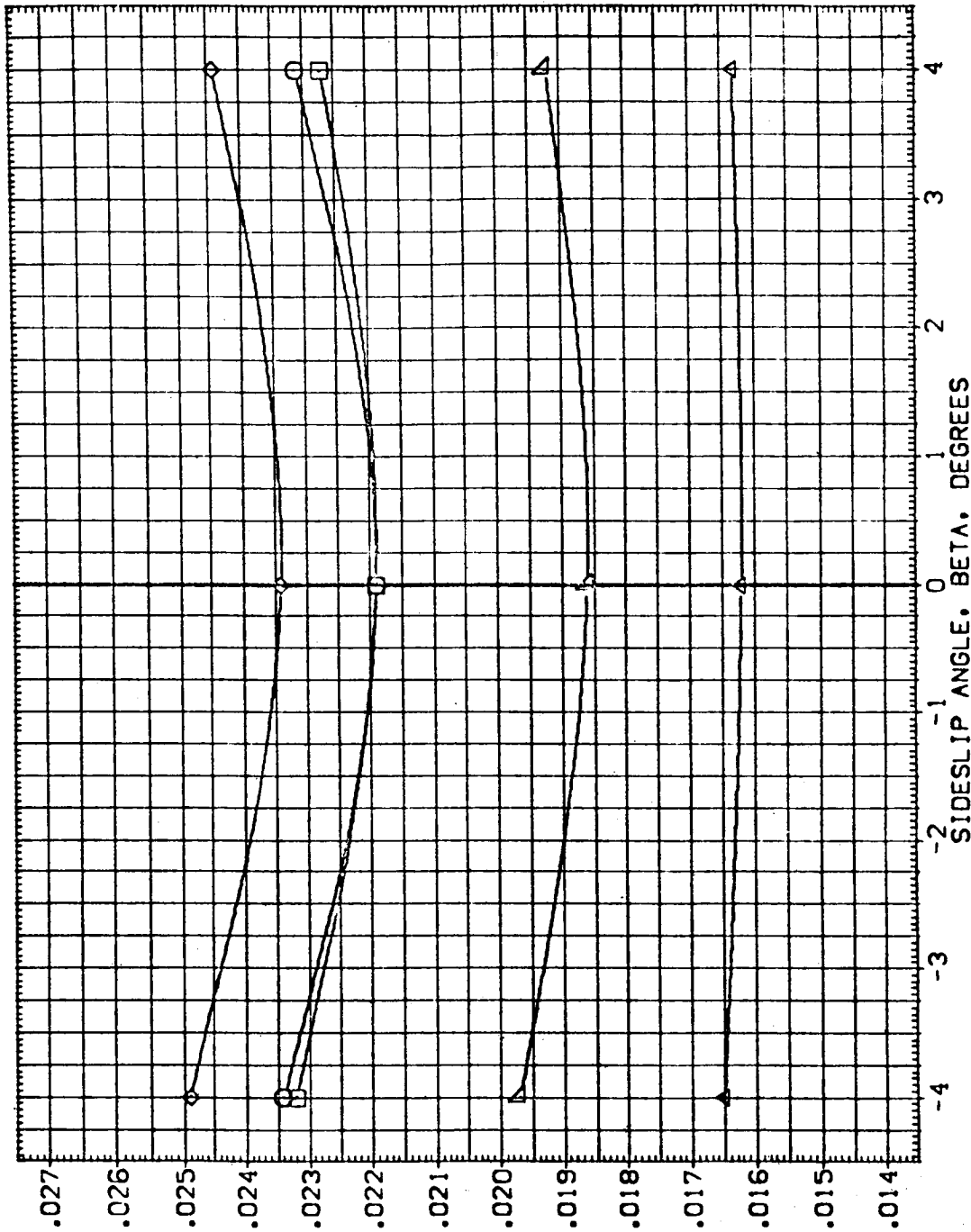


FIG. 11 EFFECT OF PLOMES - MACH=1.4 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0

(A) ALPHA = .00



DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	GIMBAL	REFERENCE INFORMATION
[CEU004]	□	ARC11-0141A19 OTS-STRUT S7B-0FF MPS-0FF	8.000	4.000	1.400	1.000	SREF 2690.0000 SQ.FT.
[CEU008]	◇	ARC11-0141A19 OTS-STRUT S7B-NOM MPS-NOM	8.000	4.000	1.400	1.000	LREF 1290.3000 IN.
[CEU012]	△	ARC11-0141A19 OTS-STRUT S7B-LOV MPS-NOM	8.000	4.000	1.400	1.000	BREF 1290.3000 IN.
[CEU016]	□	ARC11-0141A19 OTS-STRUT S7B-NOM MPS-0FF	8.000	4.000	1.400	1.000	XREF 975.0000 IN.
[CEU020]	◇	ARC11-0141A19 OTS-STRUT S7B-NOM MPS-HI	8.000	4.000	1.400	1.000	YREF 400.0000 IN.
							ZREF 400.0000 IN.
							SCALE .0200

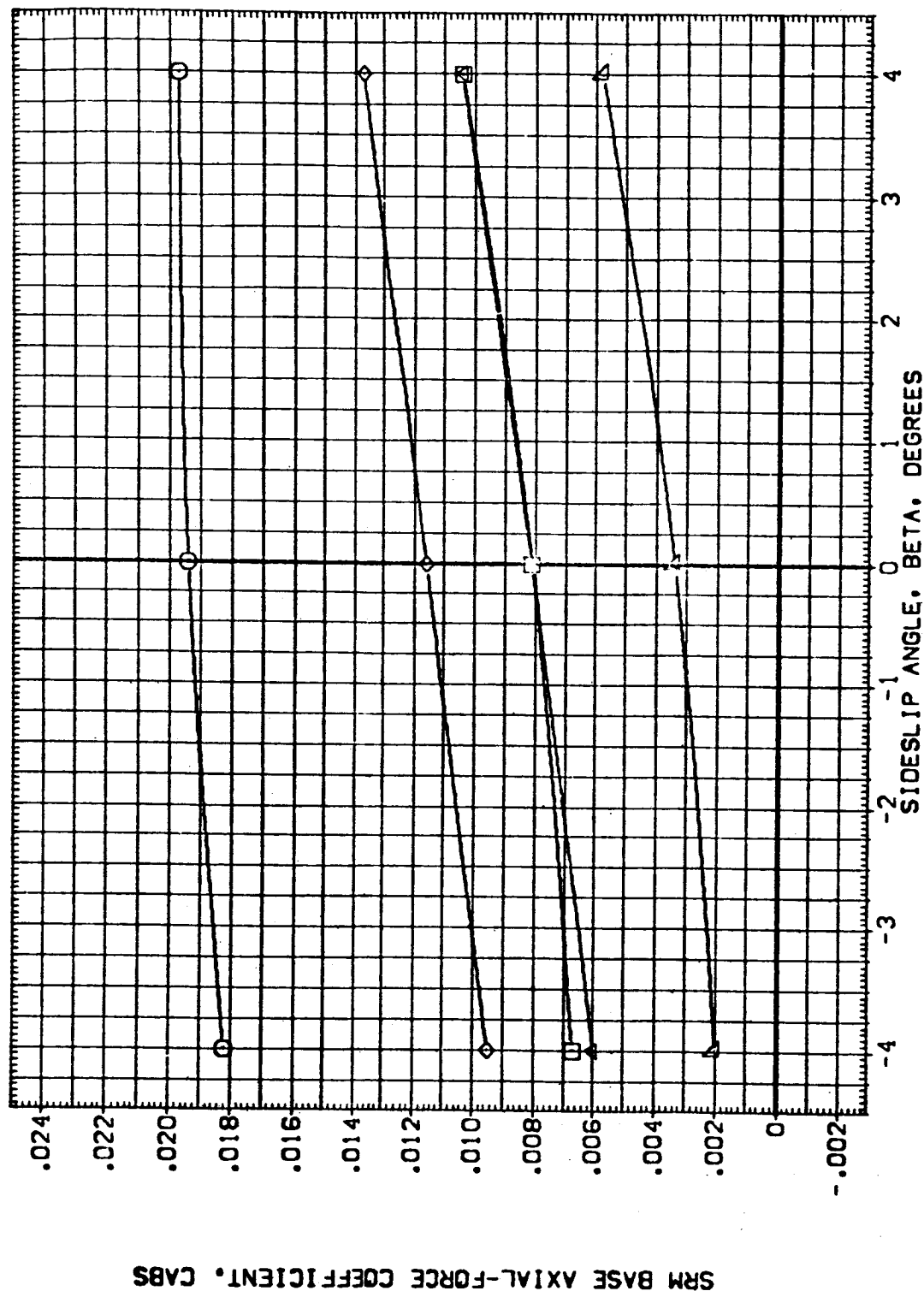


FIG. 11 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0

(A) ALPHA = .00

DATA SET SYMBOL LONG DESCRIPTION DESCRIPTION

[CEU004] ARC11-0141A19 OTS+STRUT S98-DFF MPS-DFF

[CEU008] ARC11-0141A19 OTS+STRUT S98-NOM MPS-NOM

[CEU012] ARC11-0141A19 OTS+STRUT S93-LOV MPS-LOV

[CEU016] ARC11-0141A19 OTS+STRUT S93-NOM MPS-NOM

[CEU020] ARC11-0141A19 OTS+STRUT S98-HI MPS-HI

REFERENCE INFORMATION

SREF 2650.0000 SQ.FT.

LREF 1290.3000 IN.

BREF 1290.3000 IN.

XMRP 976.0000 IN.

YMRP 400.0000 IN.

ZMRP 400.0000 IN.

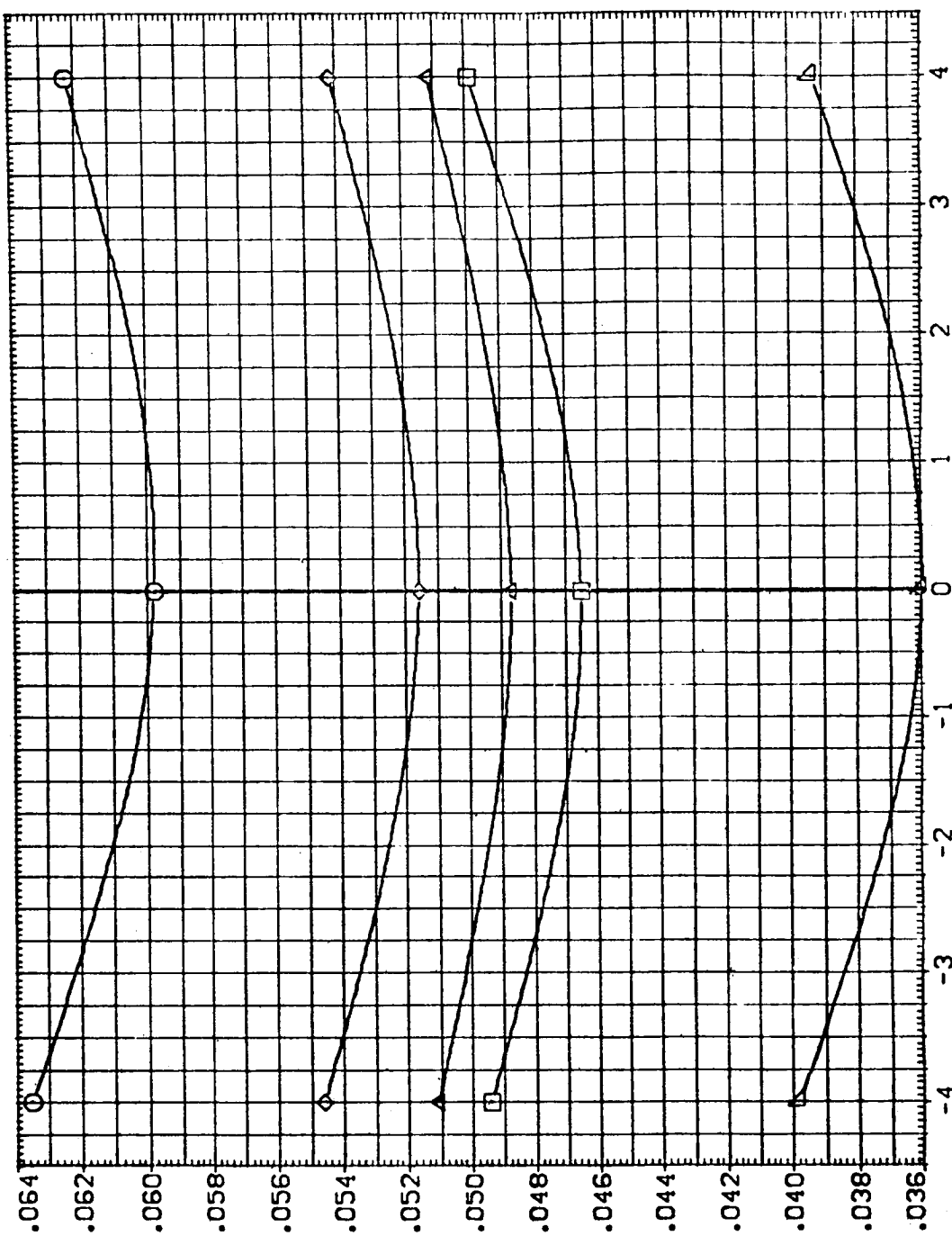
SCALE .0200

UNITAL 1.000

MACH 1.400

ELV-OB 4.000

ELV-IB 8.000



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 11 EFFECT OF PLOMES - MACH=1.4 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0

(A) ALPHA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GLOBAL	REFERENCE INFORMATION
13-0001	ARC11-011A19 OTS-STRT S98-0FF MPS-0FF	8.000	.000	1.400	1.000	SREF 2630.000 SQ.FT.
13-0002	ARC11-011A19 OTS-STRT S98-NOM MPS-NOM	8.000	.000	1.400	1.000	LREF 1290.000 N.
						BREF 1290.000 N.
						XMRP 576.0000 N.
						YMRP .0000 N.
						ZMRP .0000 N.
						SCALE 400.0000 N.
						0200

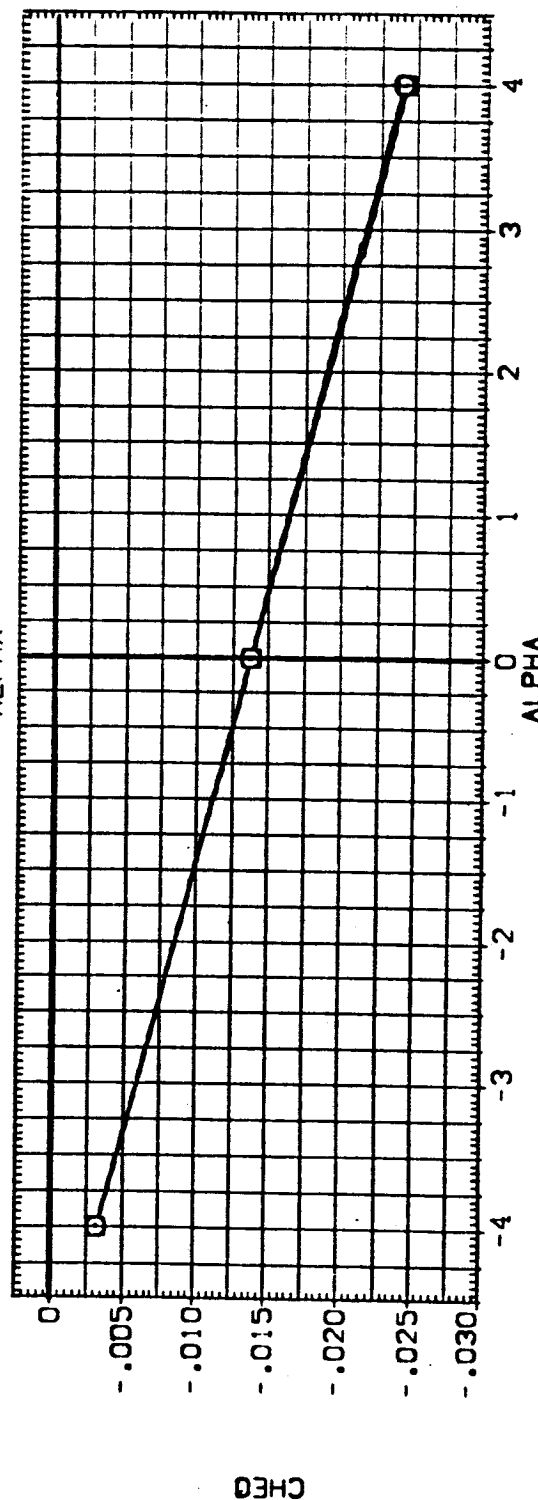
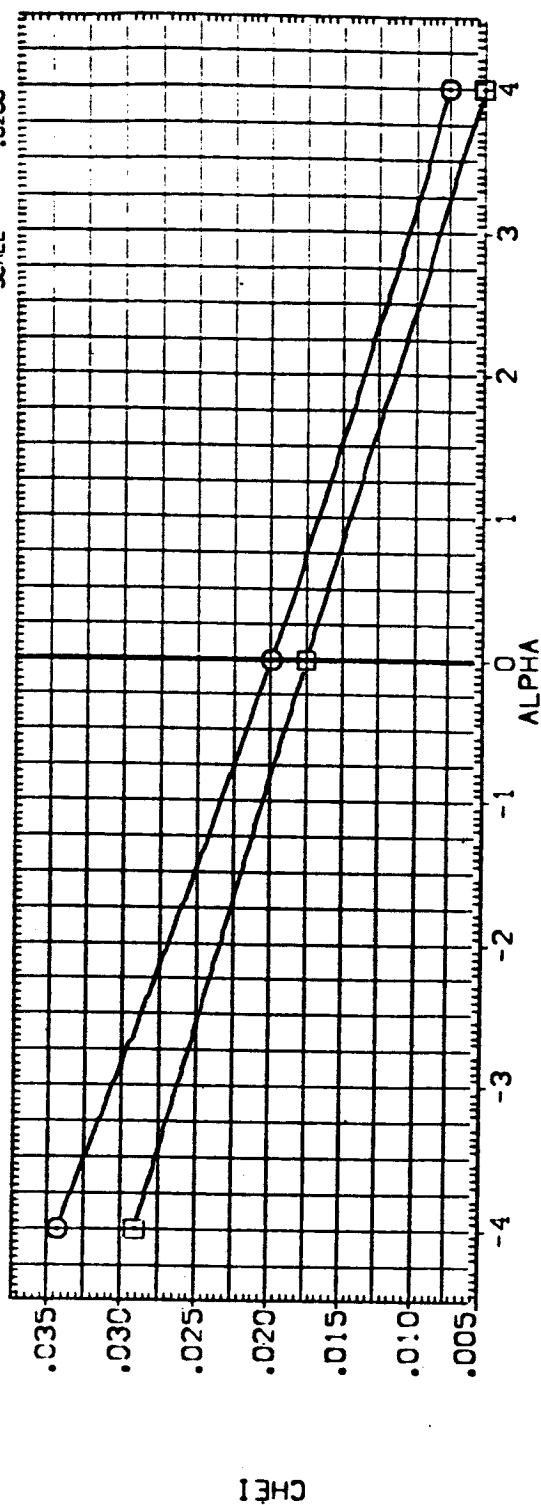


FIG. 12 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=0.0 BETA=0.0

$\gamma(\beta) = .00$

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	MPS-OFF	MPS-NOM
(B-0021)	ARC11-0141A19 OTS+STRUT	SRB-OFF	MPS-NOM
(B-0022)	ARC11-0141A19 OTS+STRUT	SRB-NOM	MPS-NOM

ELV-19 ELV-08 HCHV GINBAL

REFERENCE INFORMATION	
	SO.FT.
SREF	2690.0000
LREF	1290.3000
BREF	1290.3000
XMRP	576.0000
YMRP	.0000
ZMRP	400.0000
SCALE	.0200

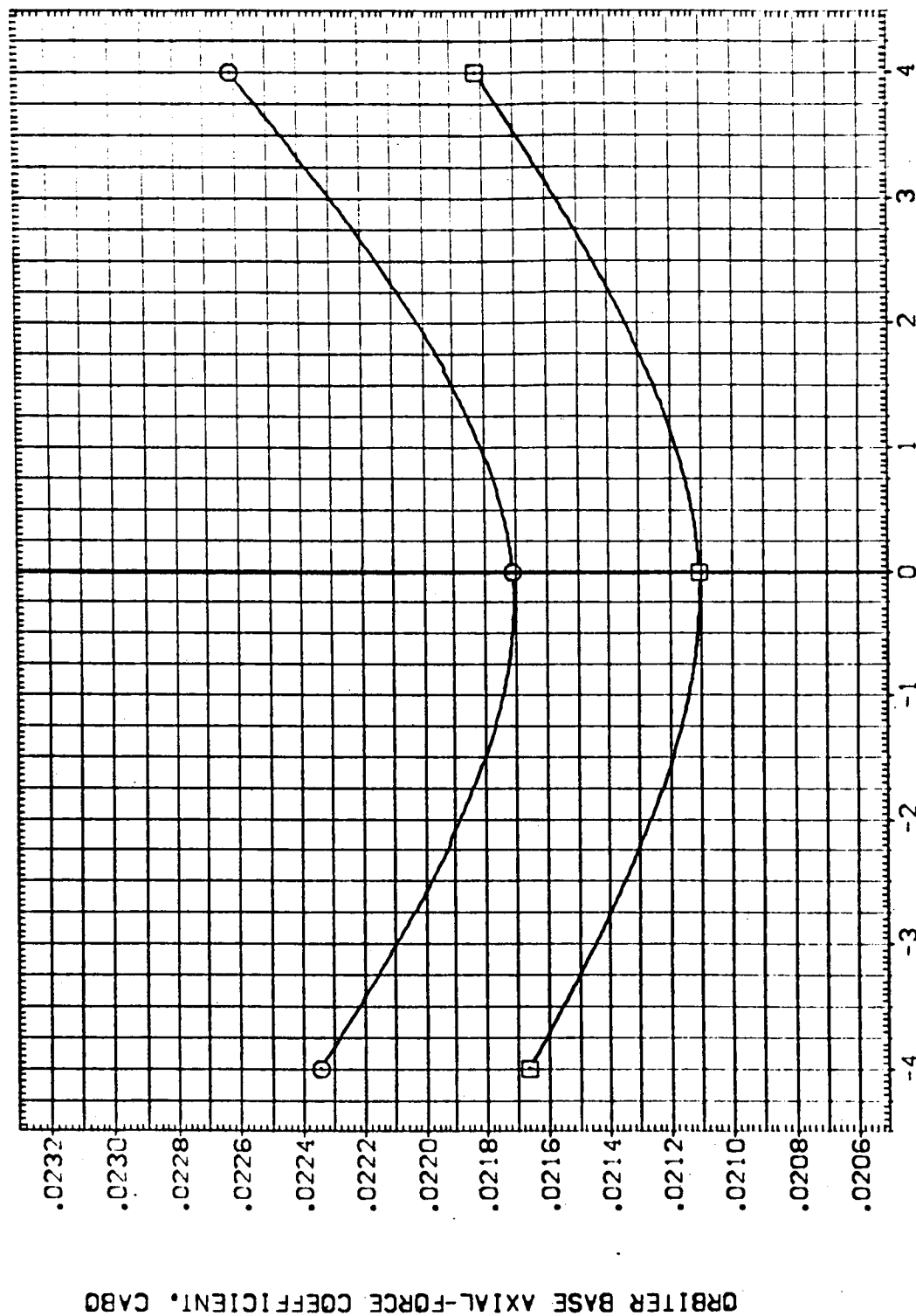


FIG. 12 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=0.0 BETA=0.0

$$(\Delta)\beta\epsilon\tau A = .00$$

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DATA SET SYMBOL. CONFIGURATION DESCRIPTION

ELV-IB	ELV-OB	MACH	GIMBAL	REFERENCE INFORMATION
8.000	.000	1.400	1.000	SREF 2690.0000 SQ.FT.
8.000	.000	1.400	1.000	LREF 1290.3000 IN.
				BREF 1290.3000 IN.
				XMRP 976.0000 IN.
				YMRP .0000 IN.
				ZMRP .0000 IN.
				SCALE .0200

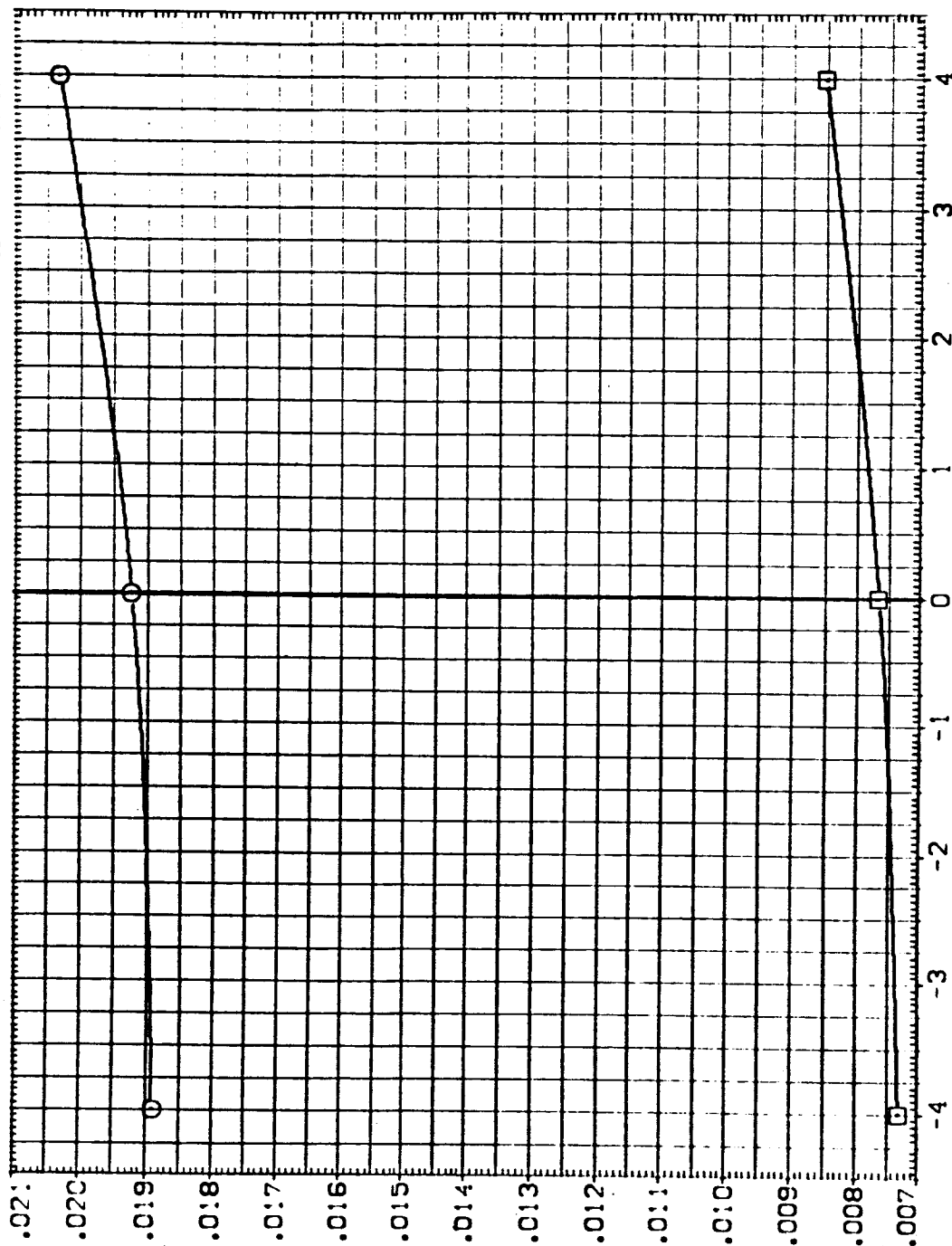


FIG. 12 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=0.0 BETA=0.0

CABETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

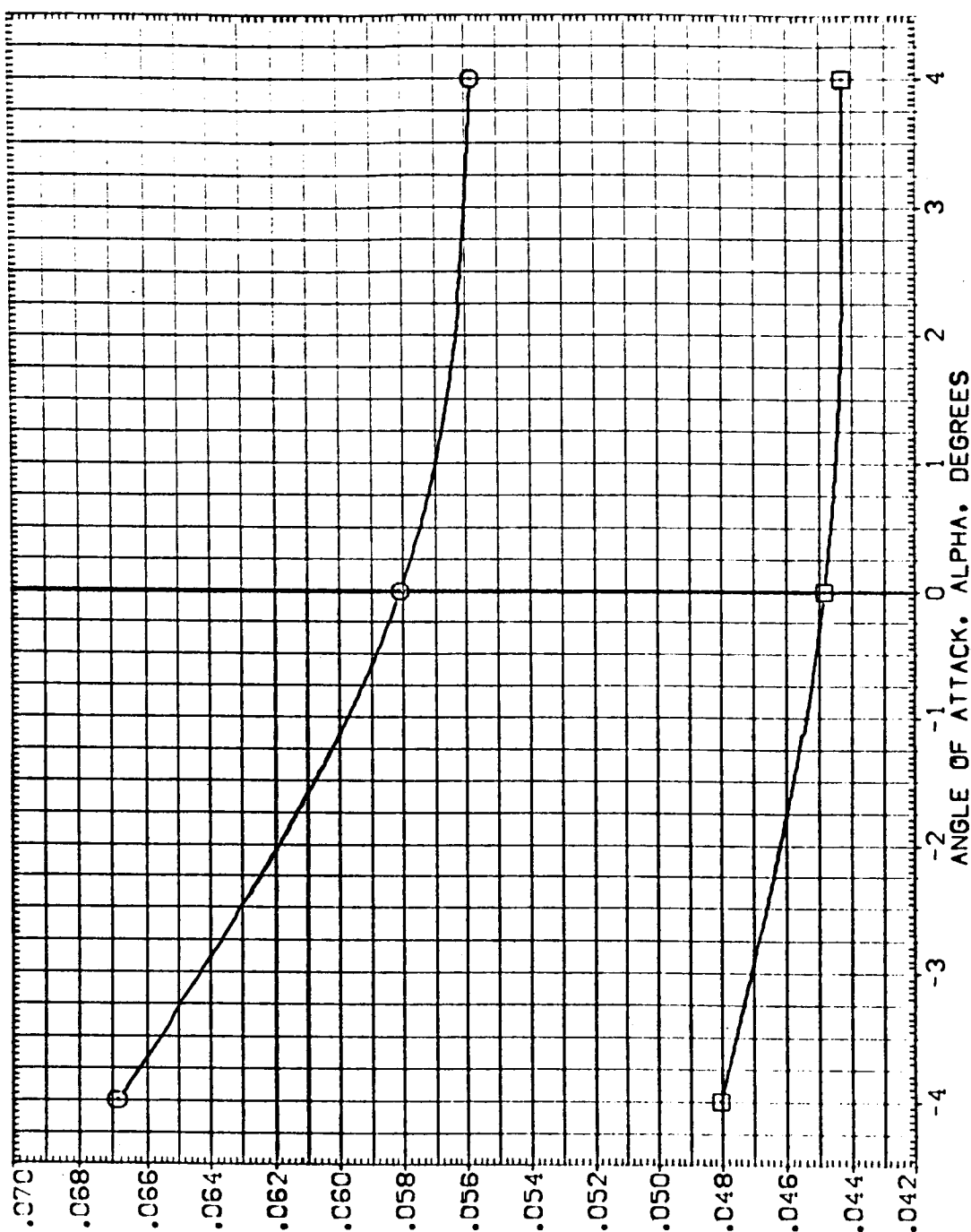
ARC11-0141A19 OTS-STRUT SR3-OFF MPS-OFF
 ARC11-0141A19 OTS-STRUT SR3-NOM MPS-NOM

ELV-18 ELV-08 MACH GIMBAL

8.000 .000 1.400 1.000
 8.000 .000 1.400 1.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XREF 976.0000 IN.
 YREF 400.0000 IN.
 ZREF 400.0000 IN.
 SCALE .0200



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 12 EFFECT OF PLOUMES - MACH=1.4 ELV-18=8.0 ELV-08=0.0 BETA=0.0

(A) BETA = .00

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DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-09	MACH	GIMBAL	SREF	3690.0000	50.FT.
ARC11-014A19	0'S-STRUT SRB-0FF MPS-0FF	8.000	.000	1.400	1.000	LREF	1290.3000	IN.
ARC11-014A19	0'S-STRUT SRB-10M MPS-10M	8.000	.000	1.400	1.000	BREF	1290.3000	IN.
						YMRD	976.0000	IN.
						ZMRD	.0000	IN.
							400.0000	IN.
							.0200	IN.

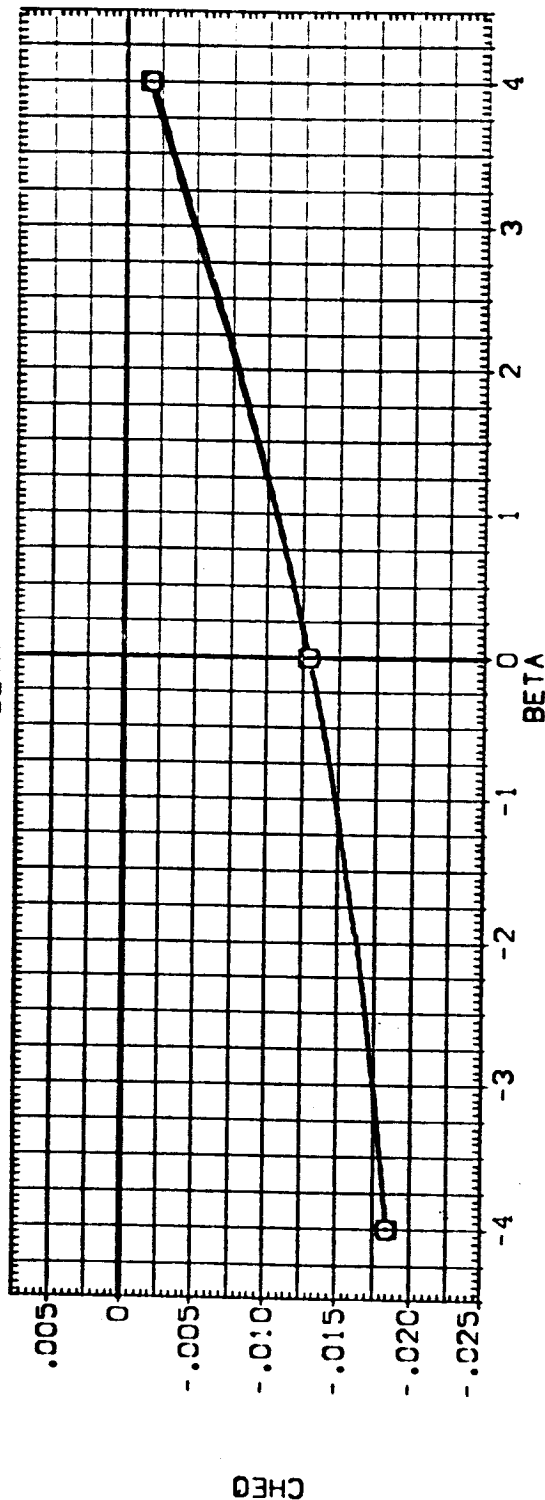
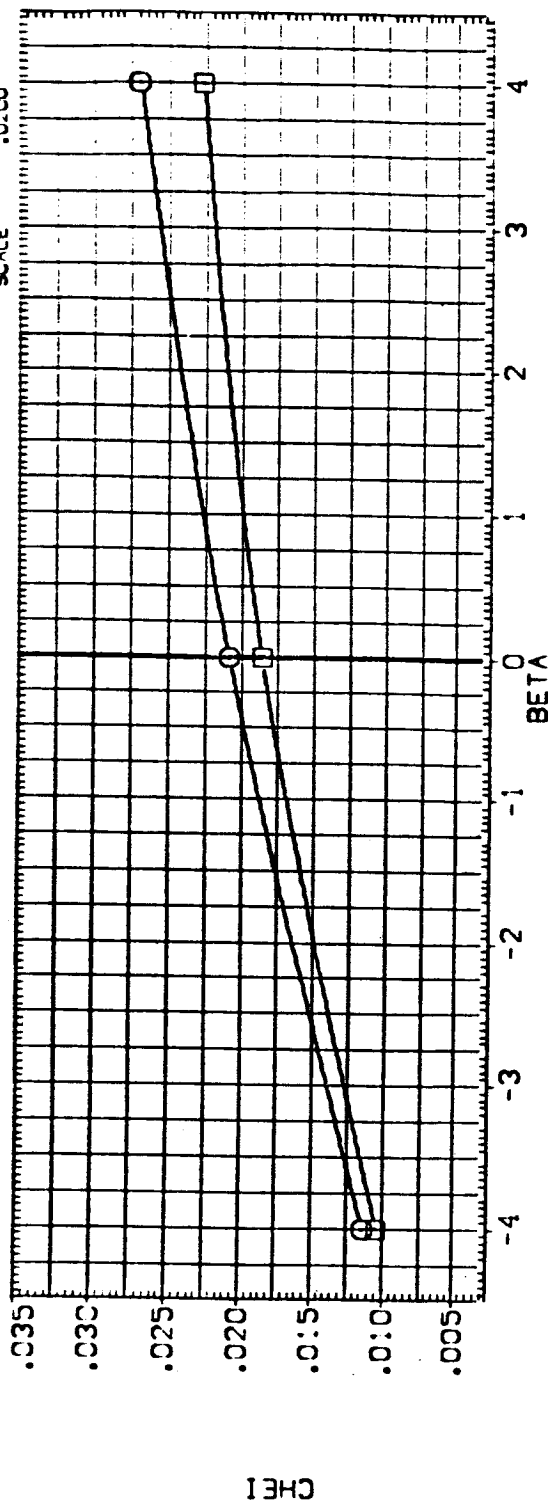
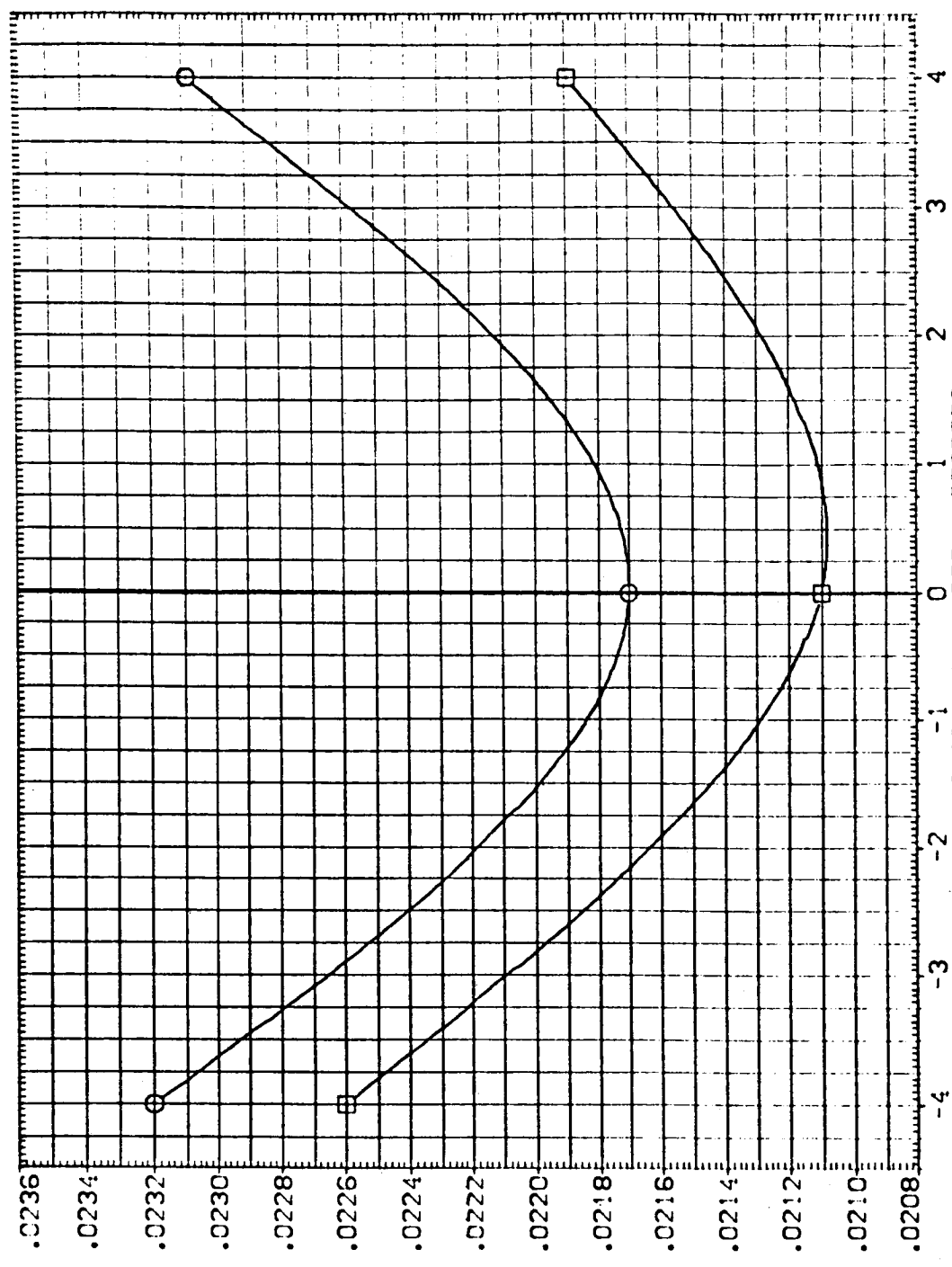


FIG. 13 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-09=0.0 ALPHA=0.0
 CAL ALPHA = .00

REFERENCE INFORMATION
 SREF 2690.0000 50. FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP .0000 IN.
 ZMRP 400.0000 IN.
 SCALE .0200

UPMAL 1.000
 MACH 1.400
 ELV-IB 8.000
 ELV-OB .000

INFORMATION DESCRIPTION
 ARC11-0141A19 OTS-S:RJT S88-OFB M88-OFB
 ARC11-0141A19 OTS-S:RJT S88-NOM M88-NOM



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 13 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=0.0 ALPHA=0.0

(A) ALPHA = .00



DATA SET SYMBOL		CONFIGURATION DESCRIPTION		ELV-IB		ELV-OB		MACH		GIMBAL		REFERENCE INFORMATION	
[CEUC01] 0		ARC11-0141A19 OTS-S-RJT SRB-OFF MPS-NOM		8.000		.000		1.400		1.000		SRF 2690.0000 SQ.FT.	
[SEUC02] 1		ARC11-0141A19 OTS-S-RJT SRB-NOM MPS-NOM		8.000		.000		1.400		1.000		LRF 1290.3000 IN.	
												BRF 1290.3000 IN.	
												XMRP 976.0000 IN. XT	
												YMRP .0000 IN. YT	
												ZMRP 400.0000 IN. ZT	
												SCALE .0200	

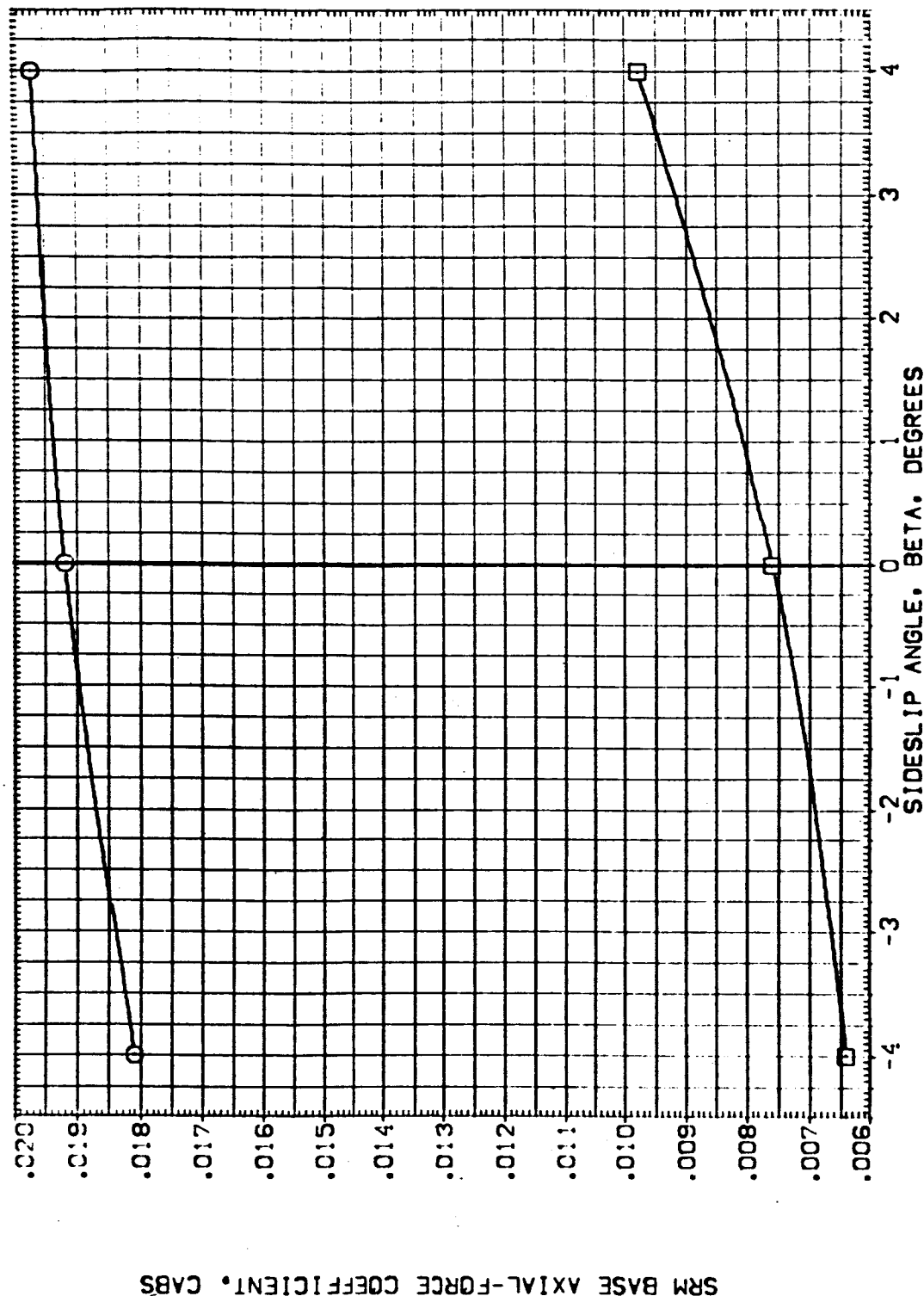


FIG. 13 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=0.0 ALPHA=0.0

(A) ALPHA = .00

REFERENCE INFORMATION
 SREF 2690.0000 50.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP 400.0000 IN.
 ZMRP 400.0000 IN.
 XT
 YT
 ZT
 SCALE .0200

ELV-IB 8.000
 ELV-OB .000
 MACH 1.400
 GIMBAL 1.000

SRSB-0FF MPS-0FF
 SRSB-NOM MPS-NOM
 SRSB-0FF MPS-0FF
 SRSB-NOM MPS-NOM

SRSB-0FF MPS-0FF
 SRSB-NOM MPS-NOM

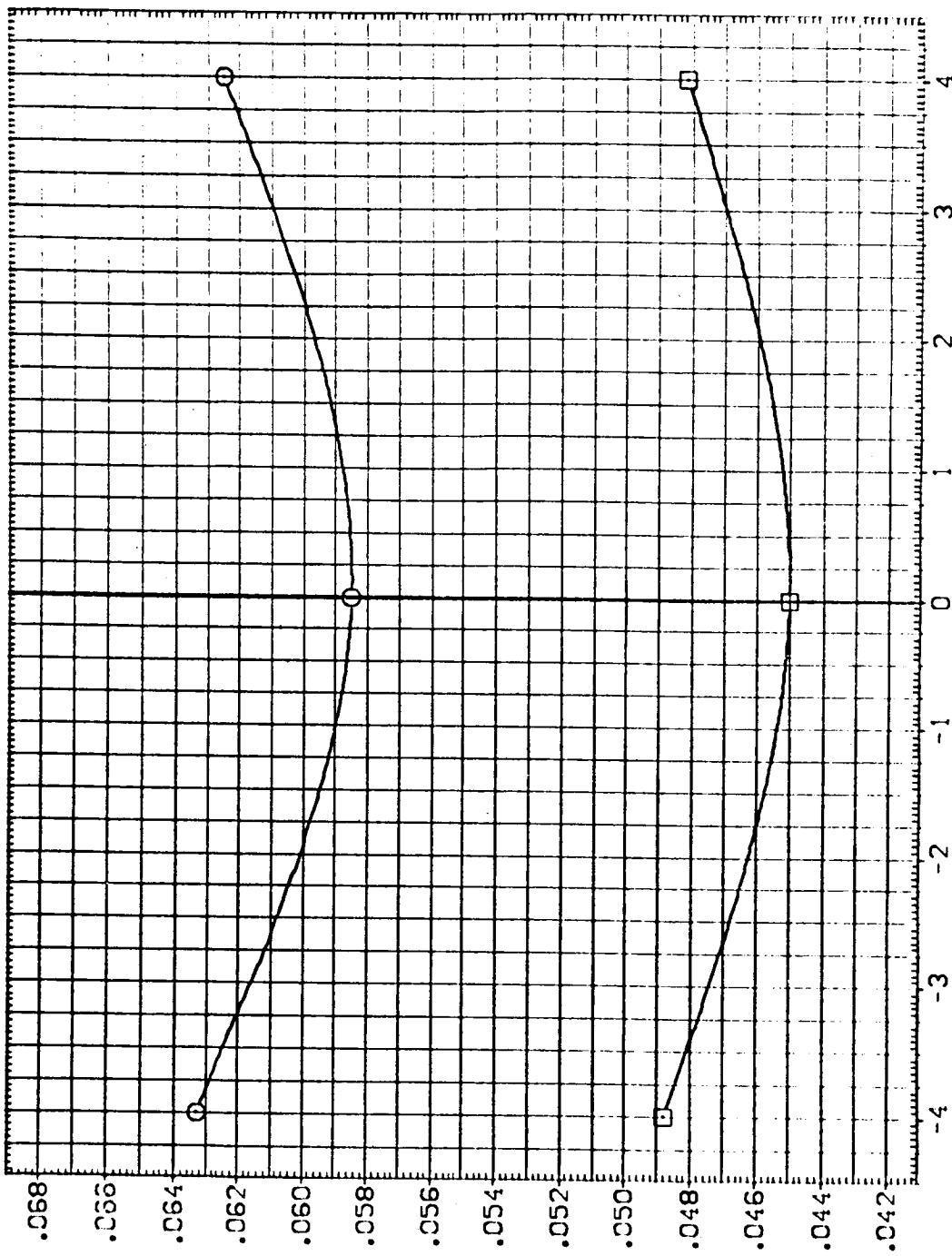


FIG. 13 EFFECT OF PLOMES - MACH=1.4 ELV-IB=8.0 ELV-OB=0.0 ALPHA=0.0

CALPHA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GIMBAL	REFERENCE INFORMATION
B-003	○	ARC-014 A19 O/S-SIRUT SPR-OFF MPS-OFF	.000	.000	.900	1.000	SREF 2690.0000 SO.FT. IN.
B-003	◇	ARC-014 A19 O/S-SIRUT SPR-NOM MPS-NOM	.000	.000	.900	1.000	REF 1290.3000 IN.
B-003	□	ARC-014 A19 O/S-SIRUT SPR-OFF MPS-OFF	.000	.000	.900	2.000	BREF 1290.3000 IN. XT
B-003	◇	ARC-014 A19 O/S-SIRUT SPR-NOM MPS-NOM	.000	.000	.900	2.000	XMRP 976.0000 IN. YT
							ZMRP 400.0000 IN. ZT
							SCALE .0200

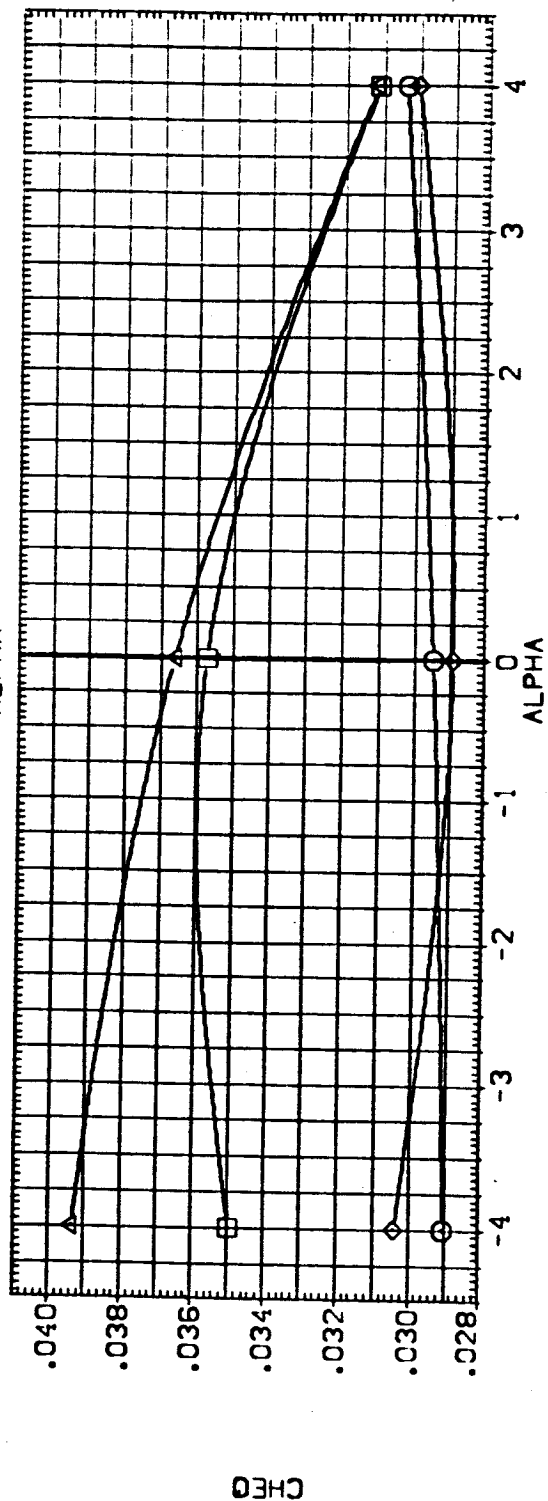
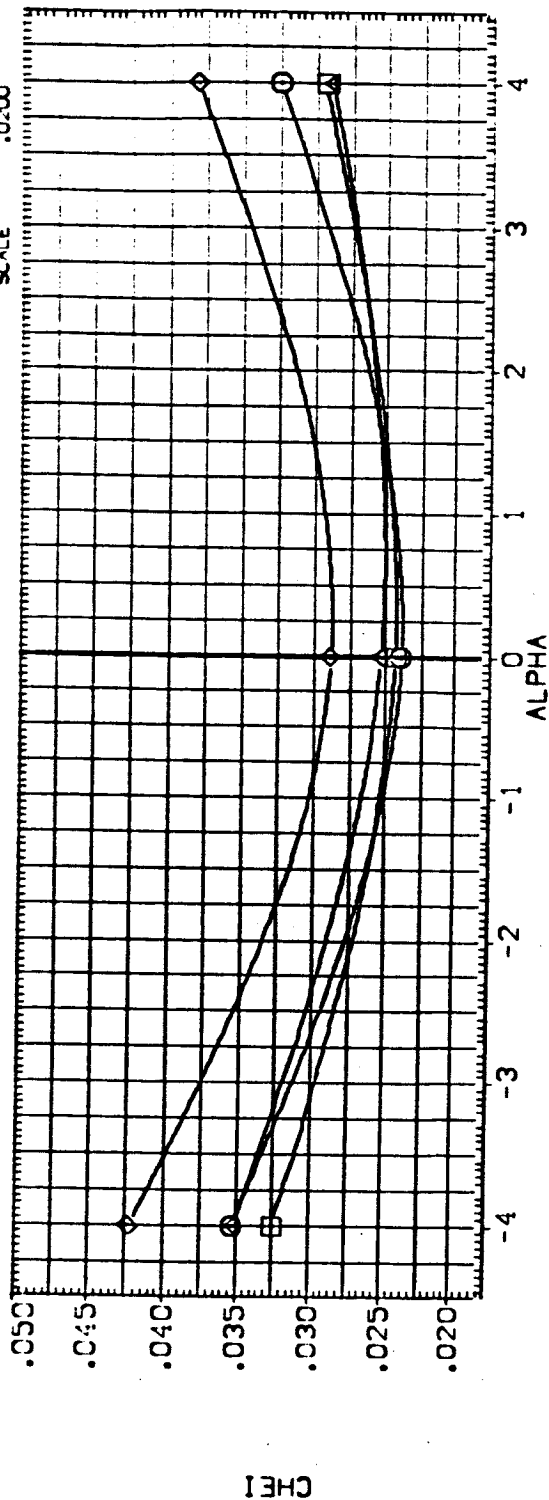


FIG. 14 EFFECT OF PLUMES - MACH=0.9 ELV-1B=0.0 ELV-0B=0.0 BETA=0.0

(A) BETA = .00

CONFIGURATION	DESCRIPTION	POS-DEF
ARC1:0:4:1A9	OTS+STRJT	SBB-OFF
ARC1:0:4:1A9	OTS+STRJT	SBB-NOM
ARC1:0:4:1A9	OTS+STRJT	SBB-OFF
ARC1:0:4:1A9	OTS+STRJT	SBB-NOM

ELV-1B	ELV-09	MACH	GIMBAL	REFERENCE INFORMATION					
.000	.000	.900	1.000	SREF	2630.000	SQ.FT.			
.000	.000	.800	1.000	LREF	1730.300	IN.			
.000	.000	.700	2.000	BREF	1730.300	IN.			
.000	.000	.600	2.000	XREF	576.000	IN.			XT
.000	.000	.500	2.000	YREF	576.000	IN.			YT
.000	.000	.400	2.000	ZREF	400.000	IN.			ZT
				SCALE	.020				

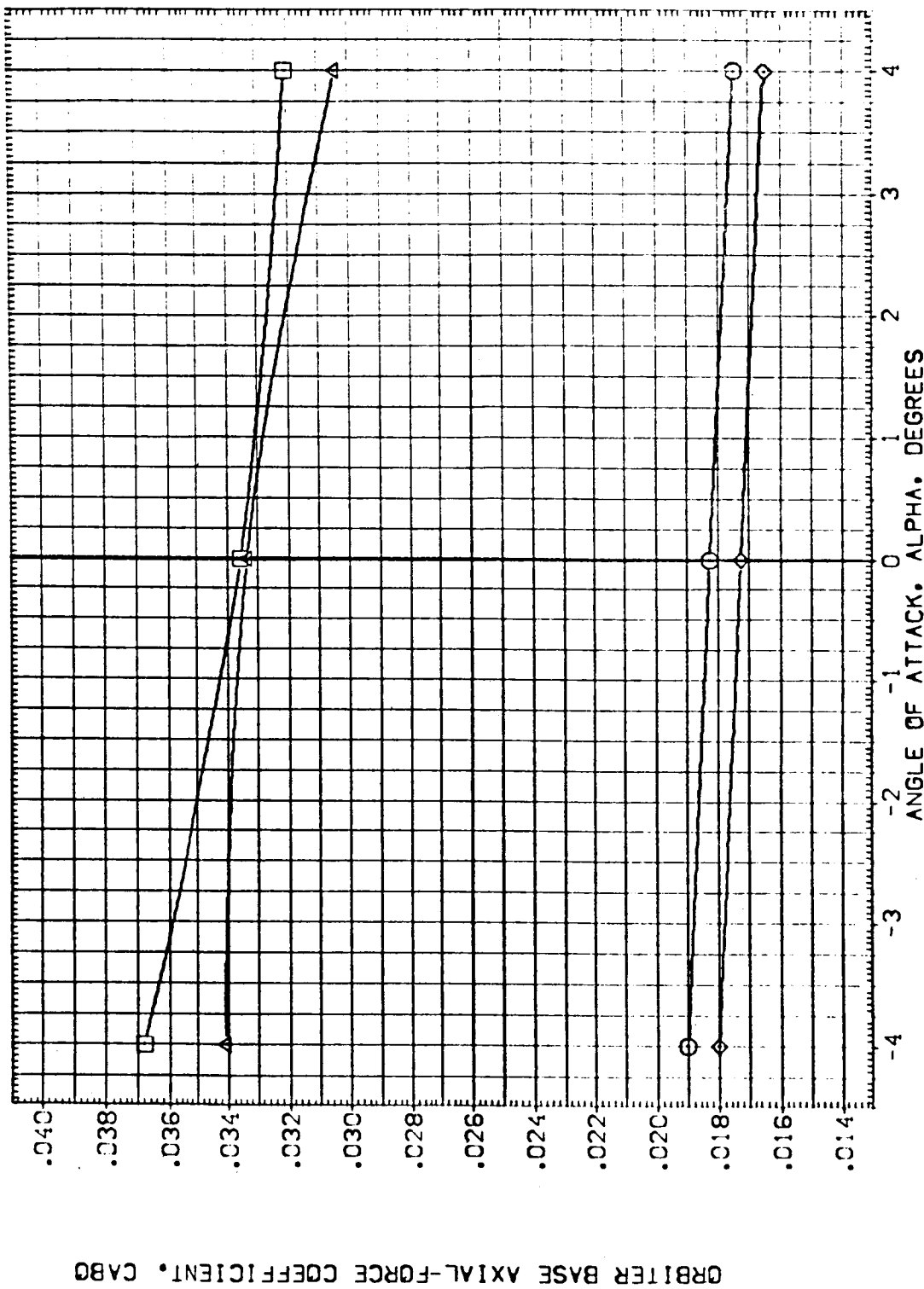


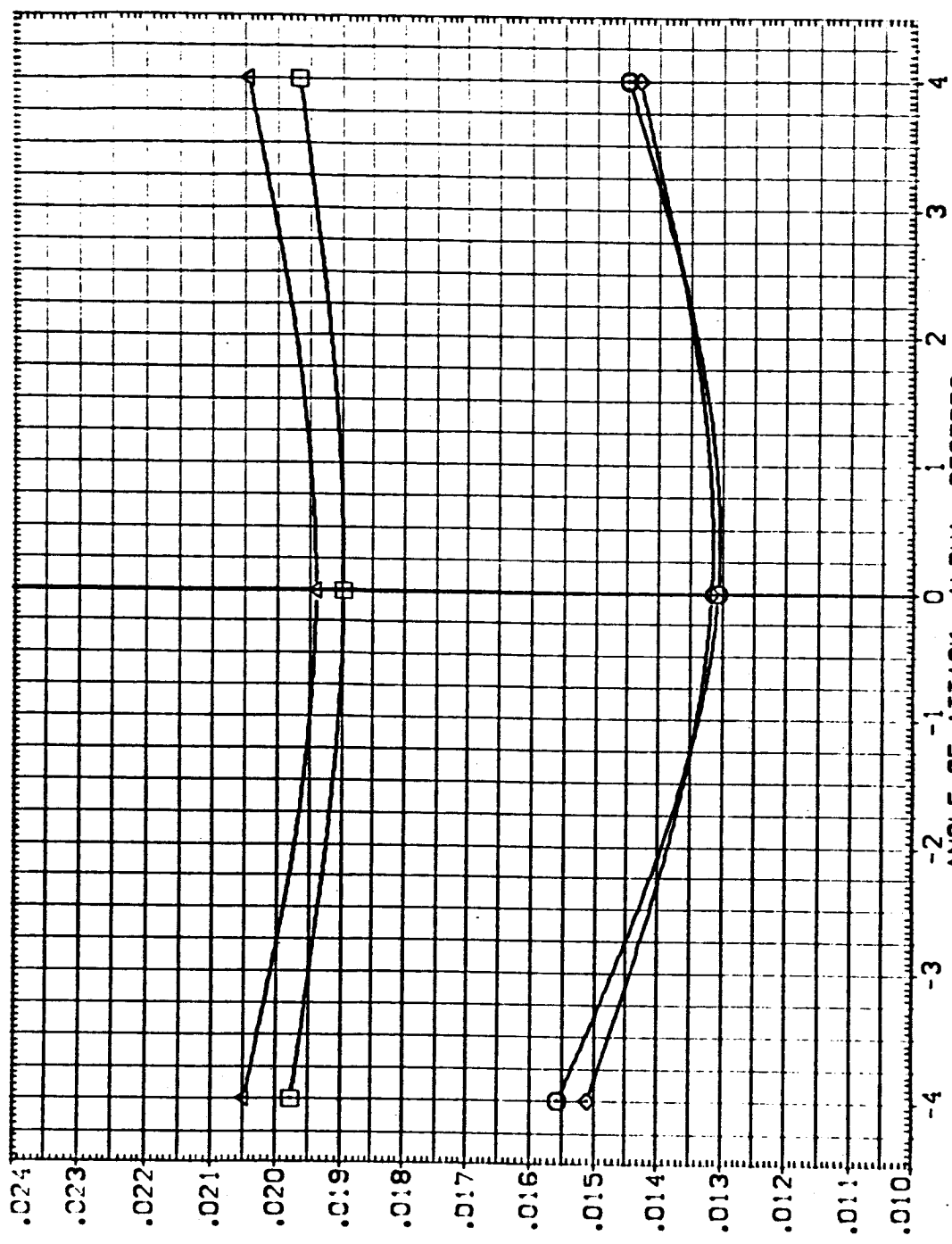
FIG. 14 EFFECT OF PLUMES - MACH=0.9 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0

CABETA = .00

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DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GIMBAL	REFERENCE INFORMATION
3-003	ARC-0-41A19 0'S-STRUT S89-0FF MPS-0FF	.000	.000	.900	1.000	SREF 2690.0000 SQ.FT.
3-007	ARC-0-41A19 0'S-STRUT S89-0FF MPS-NOM	.000	.000	.900	1.000	LREF 1290.3000 IN.
3-003	ARC-0-41A19 0'S-STRUT S89-0FF MPS-0FF	.000	.000	.900	2.000	BREF 1290.3000 IN.
3-005	ARC-0-41A19 0'S-STRUT S89-0FF MPS-NOM	.000	.000	.900	2.000	YREF 976.0000 IN.
						ZREF 400.0000 IN.
						SCALE .0500



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 14 EFFECT OF PLUMES - MACH=0.9 ELV-1B=0.0 ELV-0B=0.0 BETA=0.0

CABETA = .00



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	LV-IB	MACH	GIMBAL	REFERENCE INFORMATION
(B-003)	ARC11-0141A19 OTS-STRT SRS-OFF MPS-OFF	.000	.000	.900	1.000	SREF 2690.0000
(B-003)	ARC11-0141A19 OTS-STRT SRS-NOM MPS-NOM	.000	.000	.900	1.000	LREF 1290.3000
(B-003)	ARC11-0141A19 OTS-STRT SRS-OFF MPS-OFF	.000	.000	.900	2.000	BREF 1290.3000
(B-003)	ARC11-0141A19 OTS-STRT SRS-NOM MPS-NOM	.000	.000	.900	2.000	XMRP 976.0000
(B-003)	ARC11-0141A19 OTS-STRT SRS-OFF MPS-OFF	.000	.000	.900	2.000	YMRP 400.0000
(B-003)	ARC11-0141A19 OTS-STRT SRS-NOM MPS-NOM	.000	.000	.900	2.000	ZMRP 400.0000

SCALE 0.000

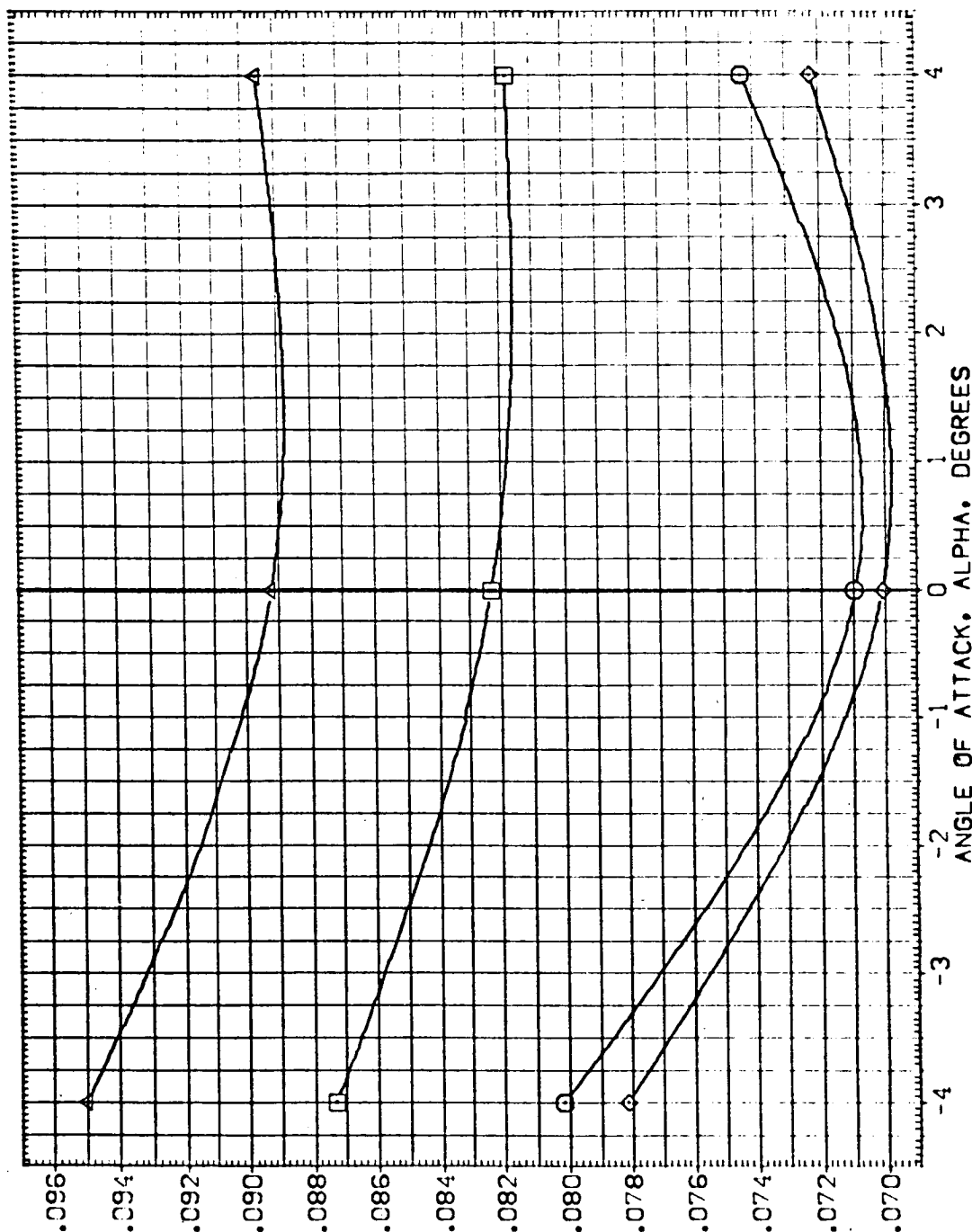


FIG. 14 EFFECT OF PLOUMES - MACH=0.9 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0

(A)BETA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-18	ELV-08	MACH	GIMBAL	REFERENCE INFORMATION
3-0004	ARC-014 A19 OTS-STRUT SRB-OFF MPS-OFF	.000	.000	1.100	1.000	SREF 2690.0000 SQ.FT.
3-0008	ARC-014 A19 OTS-STRUT SRB-NOM MPS-NOM	.000	.000	1.100	1.000	LREF 1290.3000 IN.
3-0030	ARC-014 A19 OTS-STRUT SRB-OFF MPS-OFF	.000	.000	1.100	2.000	BREF 1290.3000 IN.
3-0036	ARC-014 A19 OTS-STRUT SRB-NOM MPS-NOM	.000	.000	1.100	2.000	YMRP 976.0000 IN.
						ZMRP 400.0000 IN.
						SCALE 0.000

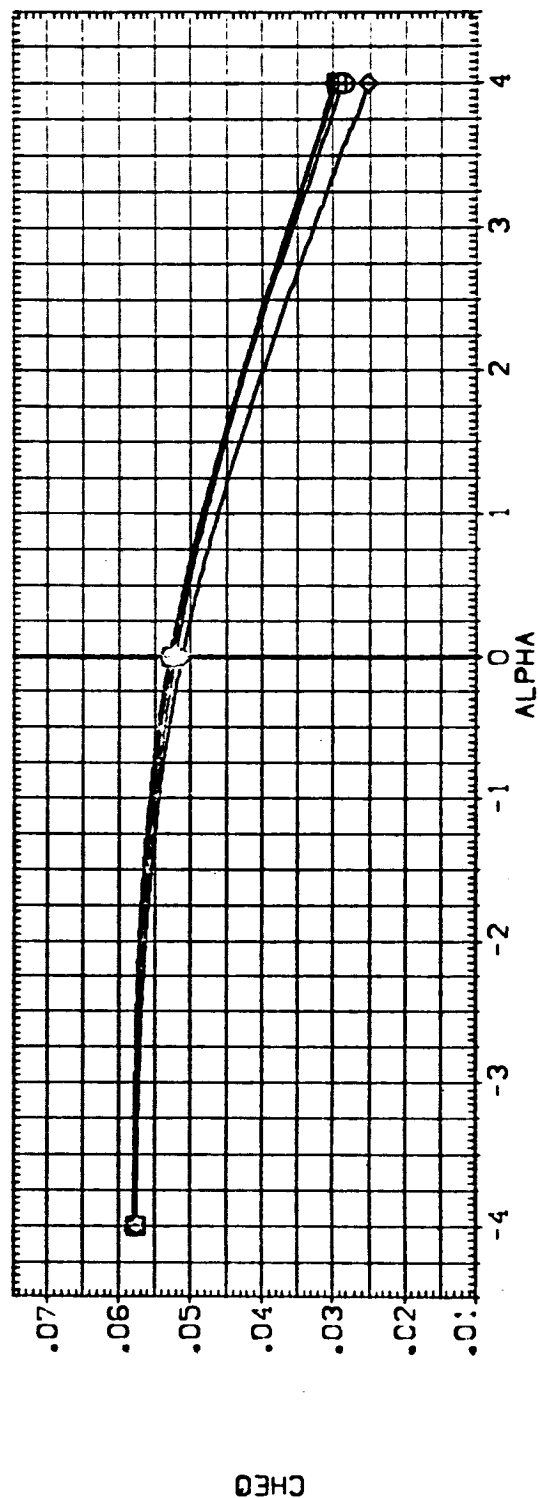
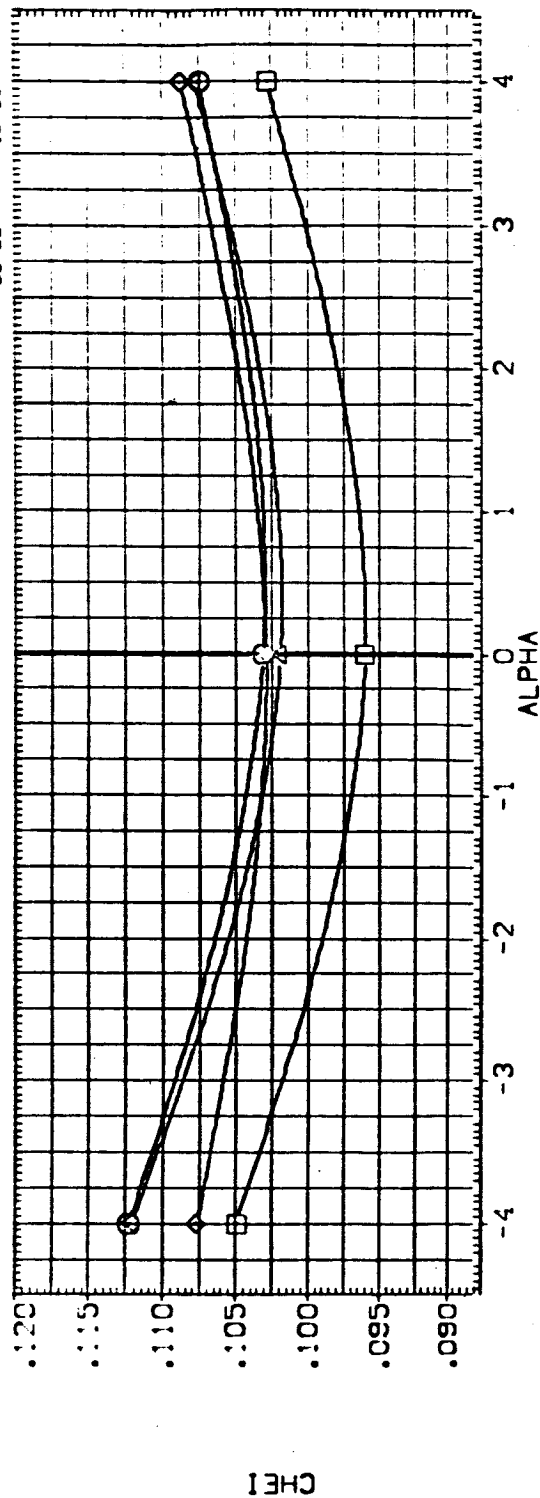


FIG. 15 EFFECT OF PLUMES - MACH=1.1 ELV-18=0.0 ELV-08=0.0 BETA=0.0

CASBETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

{B:JC4} O ARC11-0:41A19 OTS-STRUT SRS-OFF MPS-OFF
 {B:JC8} O ARC11-0:41A19 OTS-STRUT SRS-NOM MPS-NOM
 {B:JC3} O ARC11-0:41A19 OTS-STRUT SRS-OFF MPS-OFF
 {B:JC6} O ARC11-0:41A19 OTS-STRUT SRS-NOM MPS-NOM

ELV-IB ELV-OB MACH GIMBAL

.000 .000 1.100 1.000
 .000 .000 1.100 1.000
 .000 .000 1.100 2.000
 .000 .000 1.100 2.000

REFERENCE INFORMATION

SREF 2690.0000 SO.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP 400.0000 IN.
 ZMRP 400.0000 IN.
 SCALE .0200

ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

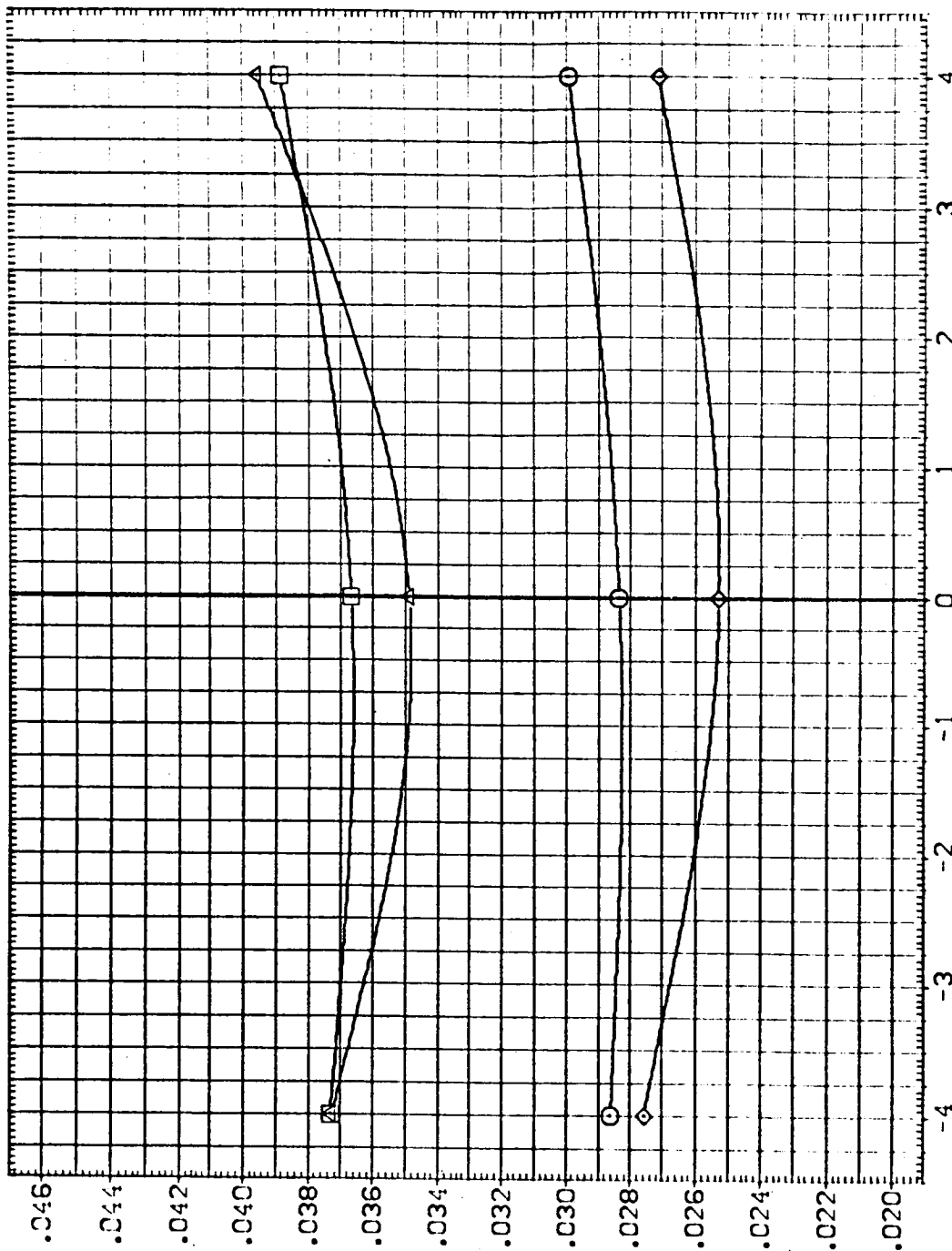


FIG. 15 EFFECT OF PLUMES - MACH=1.1 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0

CABETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION ELV-1B ELV-08 MACH GIMBAL REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-08	MACH	GIMBAL	SREF	2690.0000	50.FT.
3-0024	ARC11-0141A19 015-STRUT SRB-OFF MPS-OFF	.000	.000	1.00	1.000	LREF	280.3000	1.0
3-0025	ARC11-0141A19 015-STRUT SRB-NOM MPS-NOM	.000	.000	1.00	1.000	BREF	280.3000	1.0
3-0026	ARC11-0141A19 015-STRUT SRB-OFF MPS-OFF	.000	.000	1.00	2.000	XMRP	976.0000	1.0
3-0027	ARC11-0141A19 015-STRUT SRB-NOM MPS-NOM	.000	.000	1.00	2.000	YMRP	.0000	1.0
						ZMRP	400.0000	1.0
						SCALE	.0200	

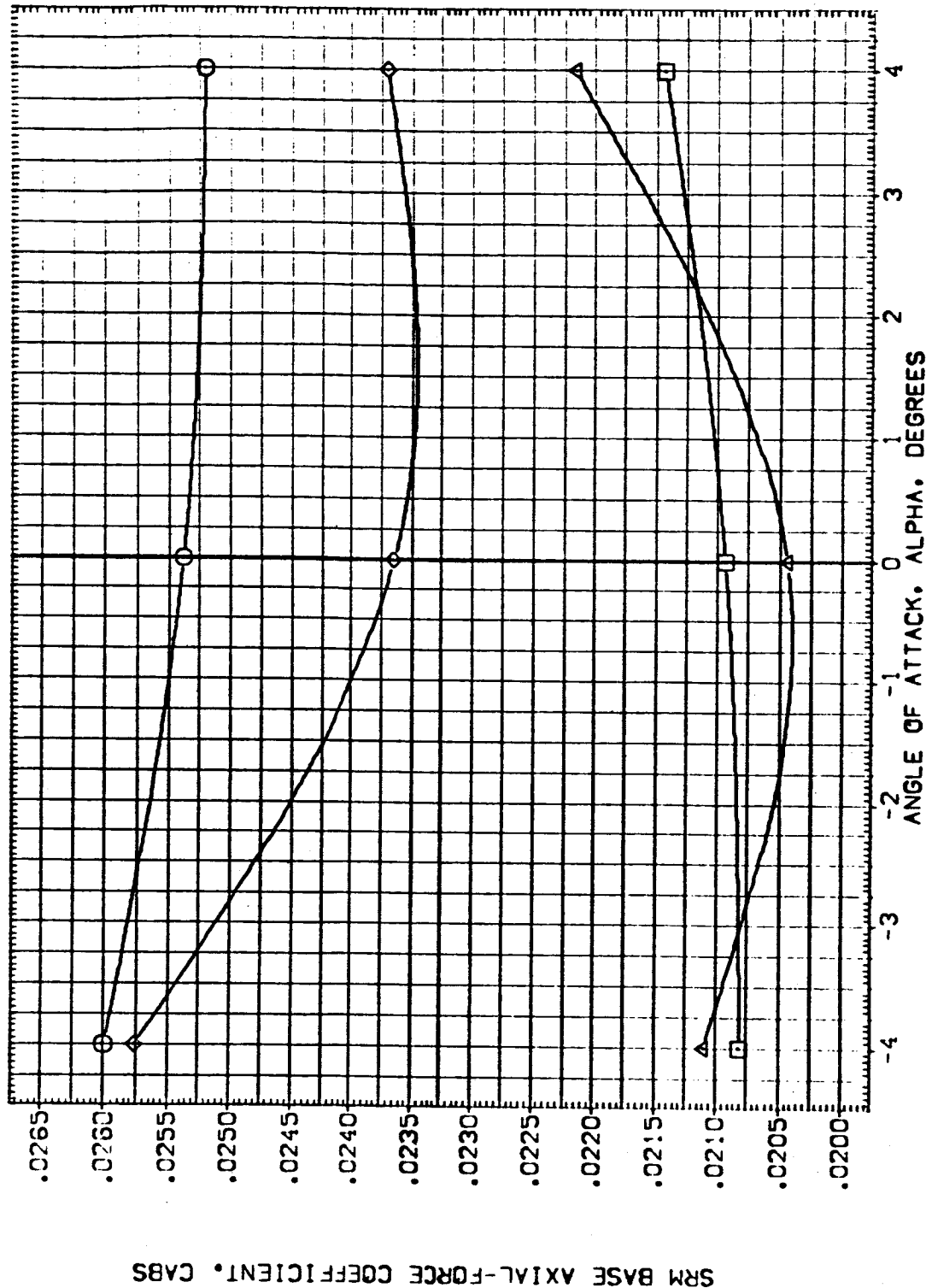


FIG. 15 EFFECT OF PLUMES - MACH=1.1 ELV-1B=0.0 ELV-08=0.0 BETA=0.0

(A) BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(3-024) C ARC:1-0:4:1:9 OTS:STRUT S98-OFF MPS-OFF

(3-028) C ARC:1-0:4:1:9 OTS:STRUT S98-NON MPS-NON

(3-032) C ARC:1-0:4:1:9 OTS:STRUT S98-OFF MPS-OFF

(3-036) C ARC:1-0:4:1:9 OTS:STRUT S98-NON MPS-NON

ELV-1B ELV-0B MACH GIMBAL

.000 .000 1.100 1.000

.000 .000 1.100 1.000

.000 .000 1.100 2.000

.000 .000 1.100 2.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.

LREF 1290.3000 IN.

BREF 1290.3000 IN.

XMRP 576.0000 IN.

ZMRP 400.0000 IN.

SCALE .0200

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

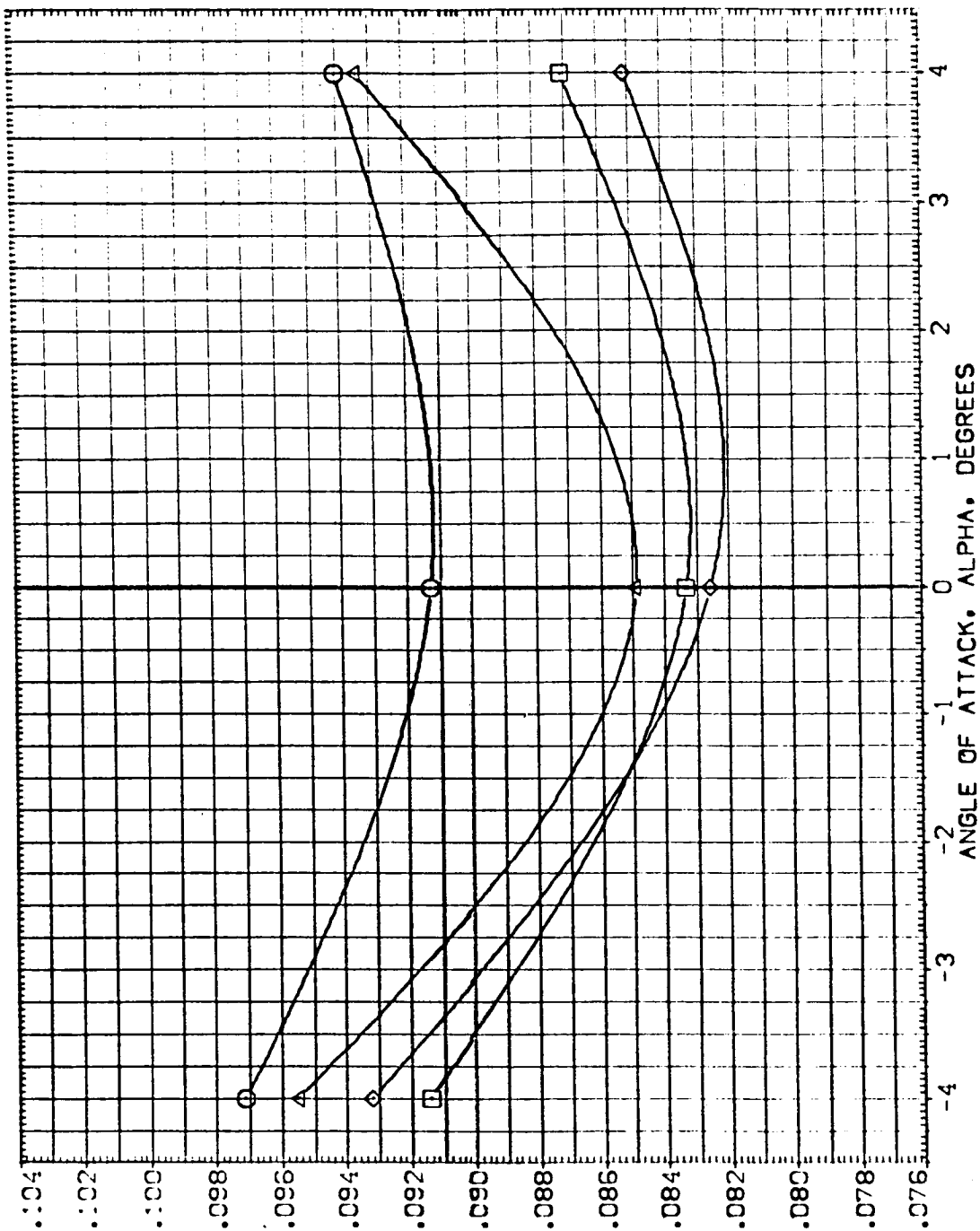


FIG. 15 EFFECT OF PLUMES - MACH=1.1 ELV-1B=0.0 ELV-0B=0.0 BETA=0.0

(A)BETA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-18	ELV-08	MACH	GIMBAL	REFERENCE INFORMATION
(3-005)	ARC11-0141A19 DIS-SIRJT SR3-0FF MPS-0FF	.000	.000	1.250	1.000	SREF 2690.0000 50.FT.
(3-008)	ARC11-0141A19 DIS-SIRJT SR3-NOM MPS-NOM	.000	.000	1.250	1.000	LREF 1290.3000 IN.
(3-033)	ARC11-0141A19 DIS-SIRJT SR3-0FF MPS-0FF	.000	.000	1.250	2.000	BREF 1290.3000 IN.
(3-033)	ARC11-0141A19 DIS-SIRJT SR3-NOM MPS-NOM	.000	.000	1.250	2.000	XMRP 976.0000 IN. XT
(3-033)						YMRP 0.0000 IN. YT
						ZMRP 400.0000 IN. ZT
						SCALE 0.500

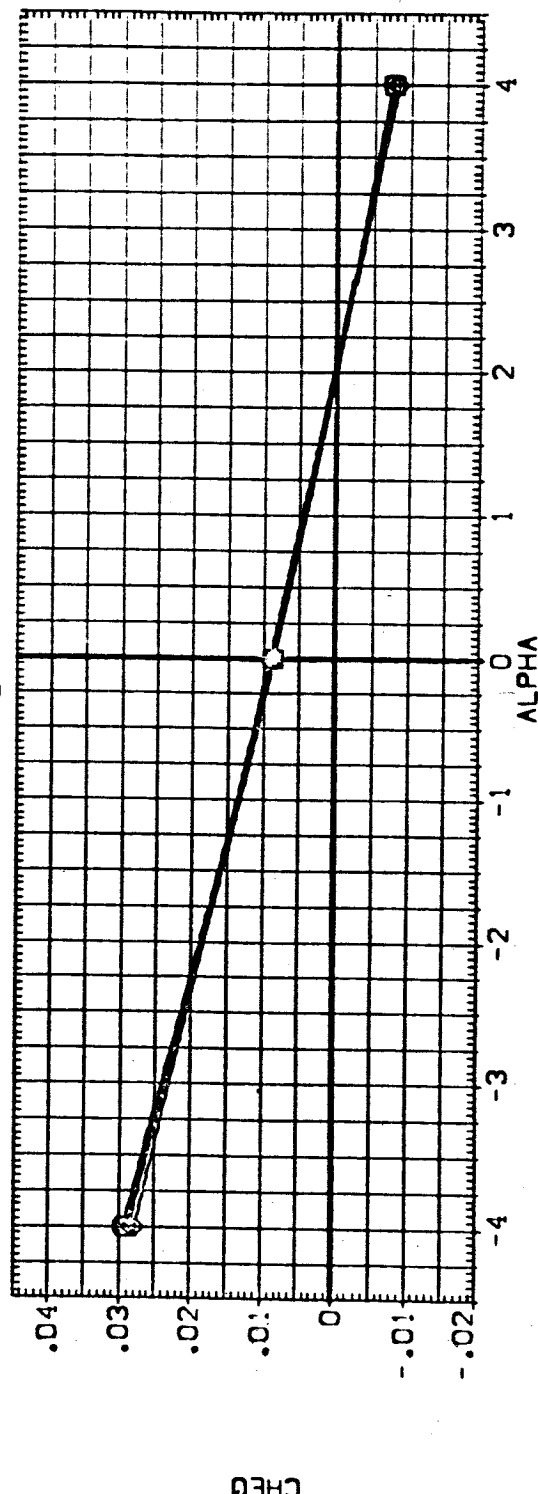
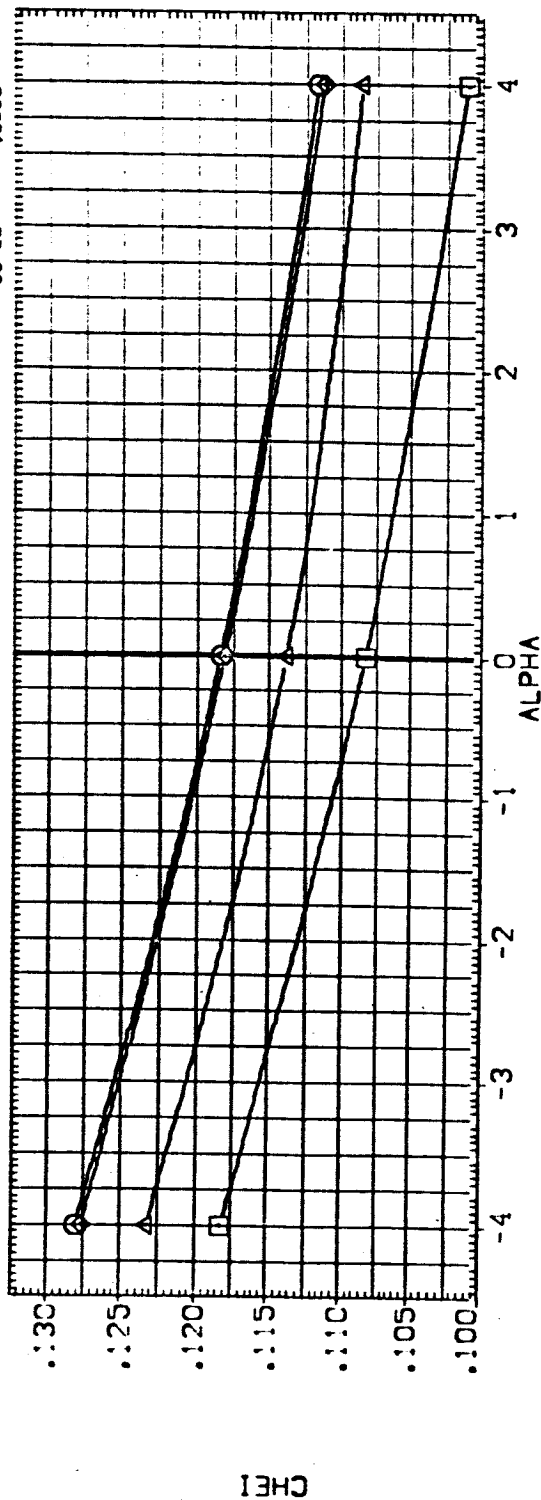
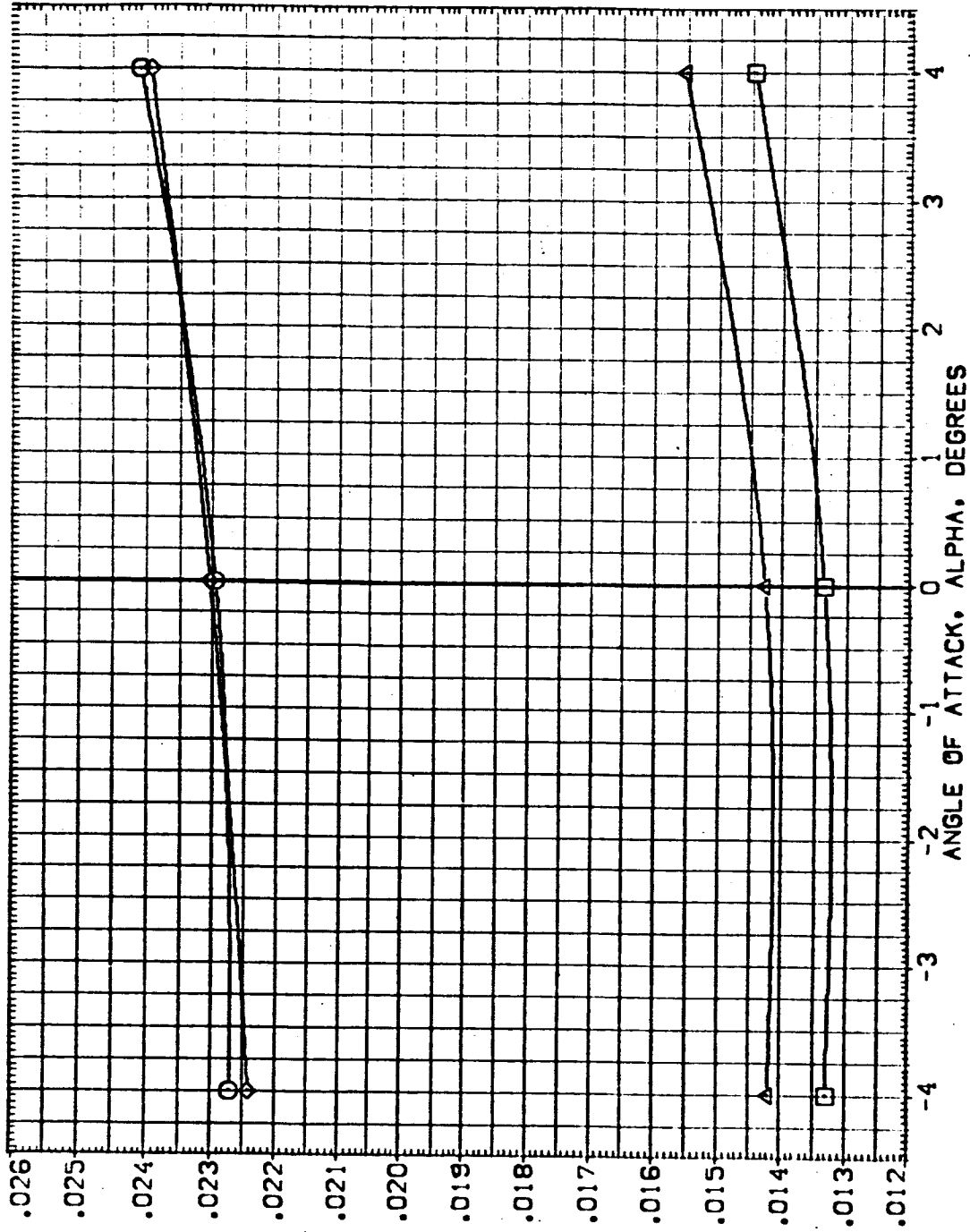


FIG. 16 EFFECT OF PLUMES - MACH=1.25 ELV-18=0.0 ELV-08=0.0 BETA=0.0

(A) BETA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-OB	MACH	GIMBAL	REFERENCE INFORMATION
[3EJ075]	ARC11-014 A19 DTS-SIRJT SRB-OFF MPS-OFF	.000	.000	1.250	1.000	SREF 2680.0000 SQ.FT.
[3EJ079]	ARC11-014 A19 DTS-SIRJT SRB-NOM MPS-NOM	.000	.000	1.250	1.000	LREF 1230.3000
[3EJ083]	ARC11-014 A19 DTS-SIRJT SRB-OFF MPS-OFF	.000	.000	1.250	2.000	BREF 1290.3000
[3EJ087]	ARC11-014 A19 DTS-SIRJT SRB-NOM MPS-NOM	.000	.000	1.250	2.000	XMRP 975.0000
						YMRP .0000
						ZMRP 400.0000
						SCALE .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 16 EFFECT OF PLUMES - MACH=1.25 ELV-1B=0.0 ELV-OB=0.0 BETA=0.0

(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[35005] ○ ARC11-0141A19 OTS-STRUT SRS-OFF MPS-OFF

[35006] ◇ ARC11-0141A19 OTS-STRUT SRS-ON MPS-ON

[35007] △ ARC11-0141A19 OTS-STRUT SRS-OFF MPS-OFF

[35008] □ ARC11-0141A19 OTS-STRUT SRS-ON MPS-ON

ELV-IB ELV-OB MACH GIMBAL

.000 .000 1.250 1.000

.000 .000 1.250 1.000

.000 .000 1.250 2.000

.000 .000 1.250 2.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.

LREF 1290.3000 IN.

BREF 1290.3000 IN.

XREF 976.0000 IN.

YREF 400.0000 IN.

ZREF 400.0000 IN.

SCALE .0200

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

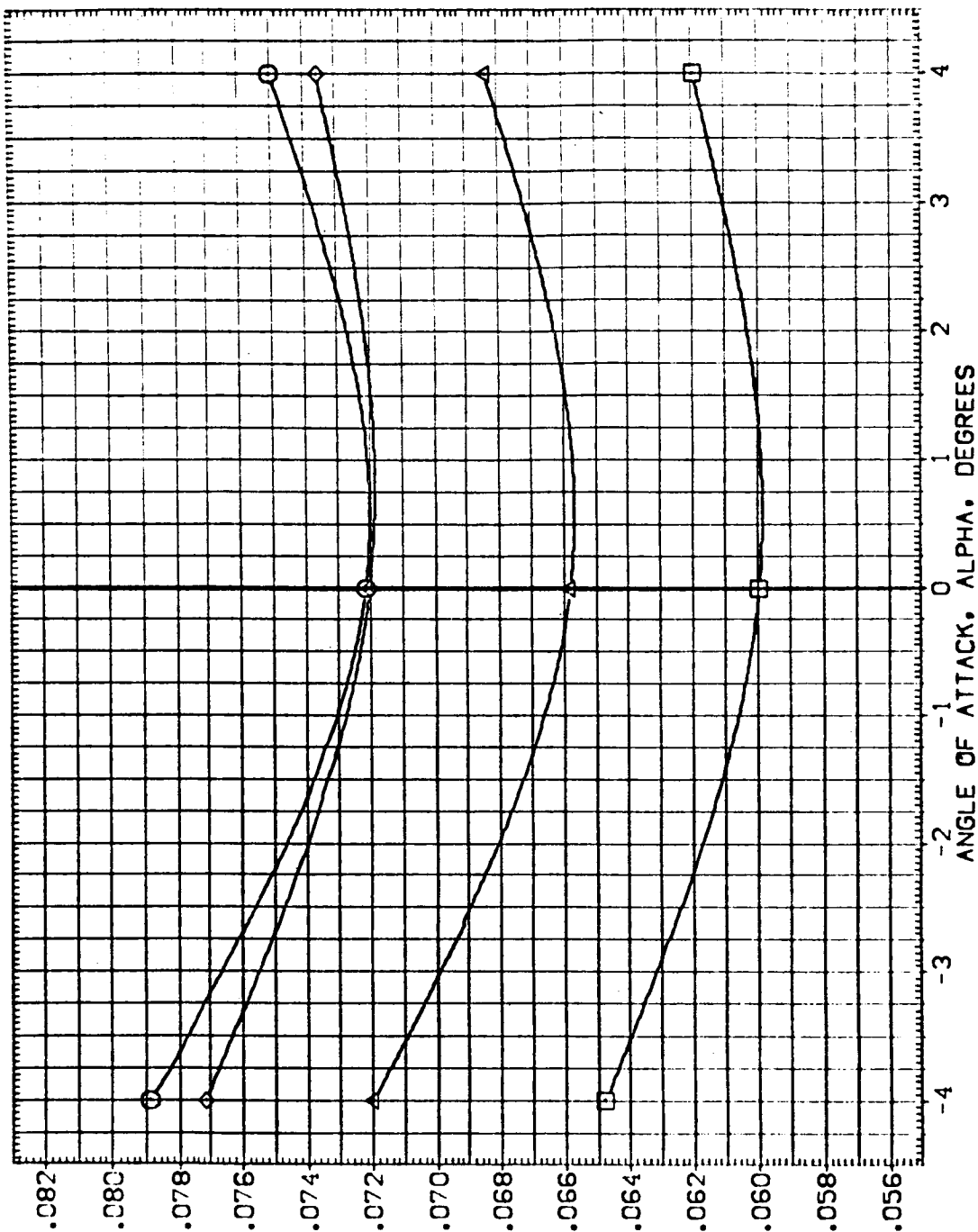


FIG. 16 EFFECT OF PLOUMES - MACH=1.25 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0
(A) BETA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	GIMBAL	REFERENCE INFORMATION
(350026)	ARC11-0141A19 OTS-STRUT SRB-OFF WPS-OFF	.000	.000	1.400	1.000	SREF 2690.0000 SQ.FT.
(350030)	ARC11-0141A19 OTS-STRUT SRB-NOM WPS-NOM	.000	.000	1.400	1.000	LREF 1290.3000 IN.
(350031)	ARC11-0141A19 OTS-STRUT SRB-OFF WPS-OFF	.000	.000	1.400	2.000	BREF 1290.3000 IN.
(350038)	ARC11-0141A19 OTS-STRUT SRB-NOM WPS-NOM	.000	.000	1.400	2.000	YMRP 976.0000 IN.
						ZMRP 400.0000 IN.
						SCALE .0700

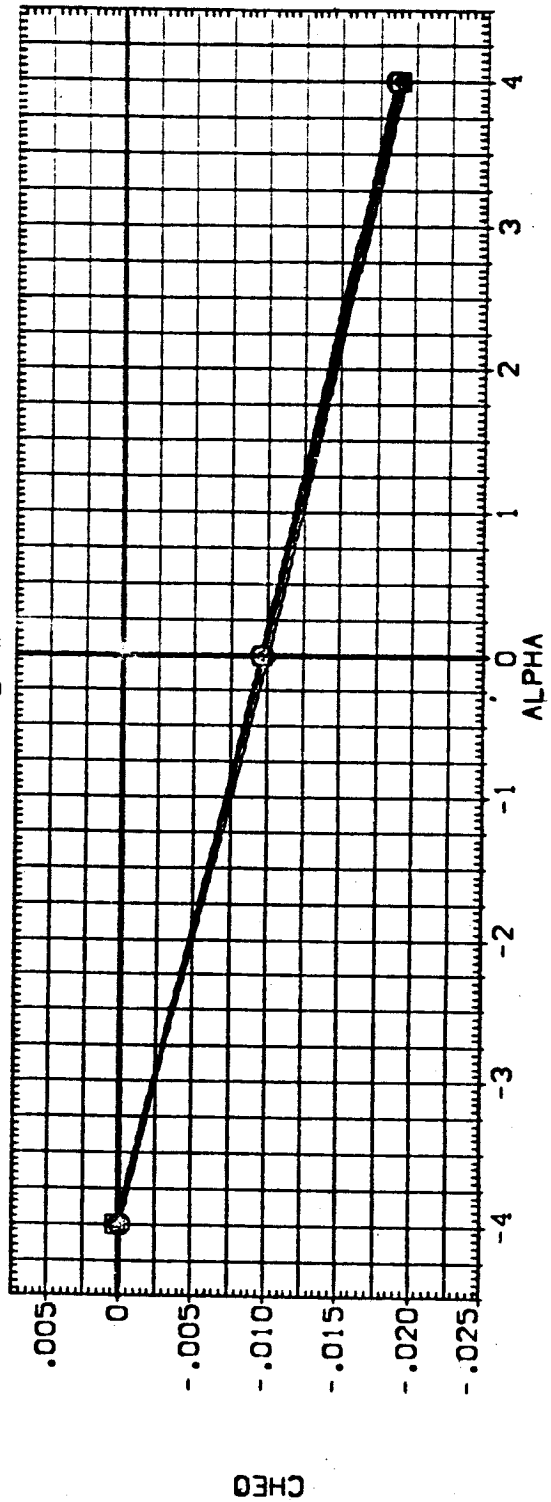
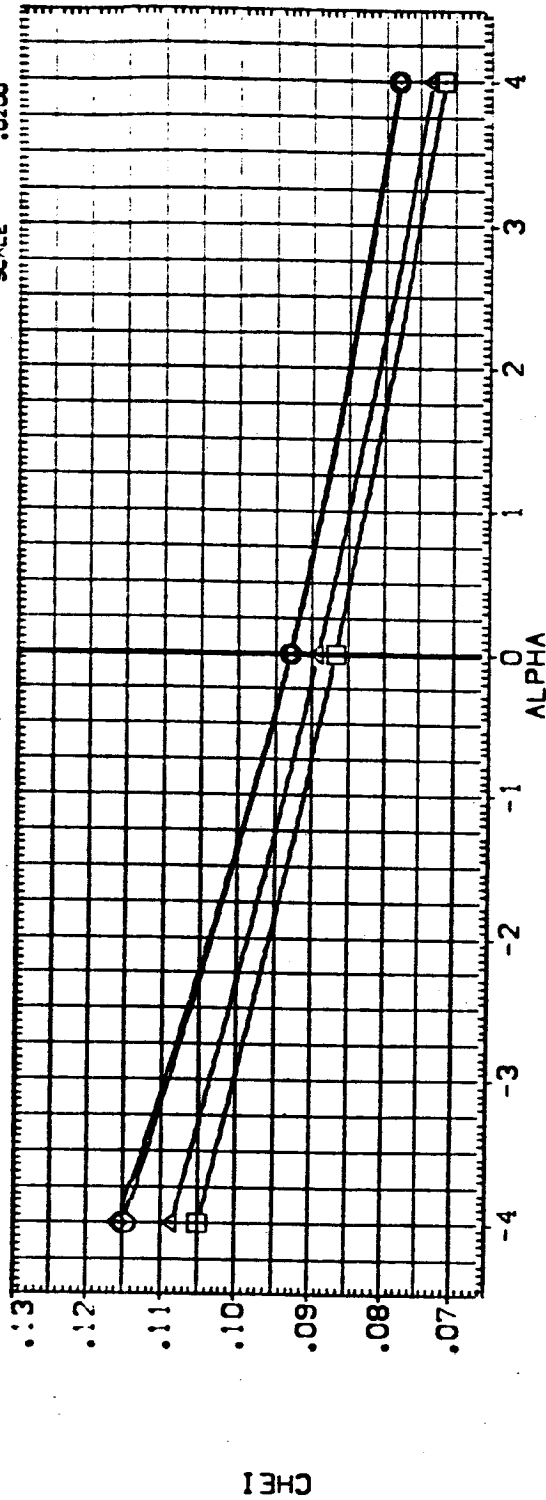


FIG. 17 EFFECT OF PLUMES - MACH=1.4 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0

(A)BETA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	GIMBAL	REFERENCE INFORMATION
[3EJC076]	ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF	.000	.000	1.400	1.000	SREF 2690.0000 SO.FT.
[3EJC030]	ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM	.000	.000	1.400	1.000	LREF 1290.3000 IN.
[3EJC034]	ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF	.000	.000	1.400	2.000	BREF 1290.3000 IN.
[3EJC038]	ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM	.000	.000	1.400	2.000	XMRP 976.0000 IN.
						YMRP 400.0000 IN.
						ZMRP 400.0000 IN.
						SCALE .0200

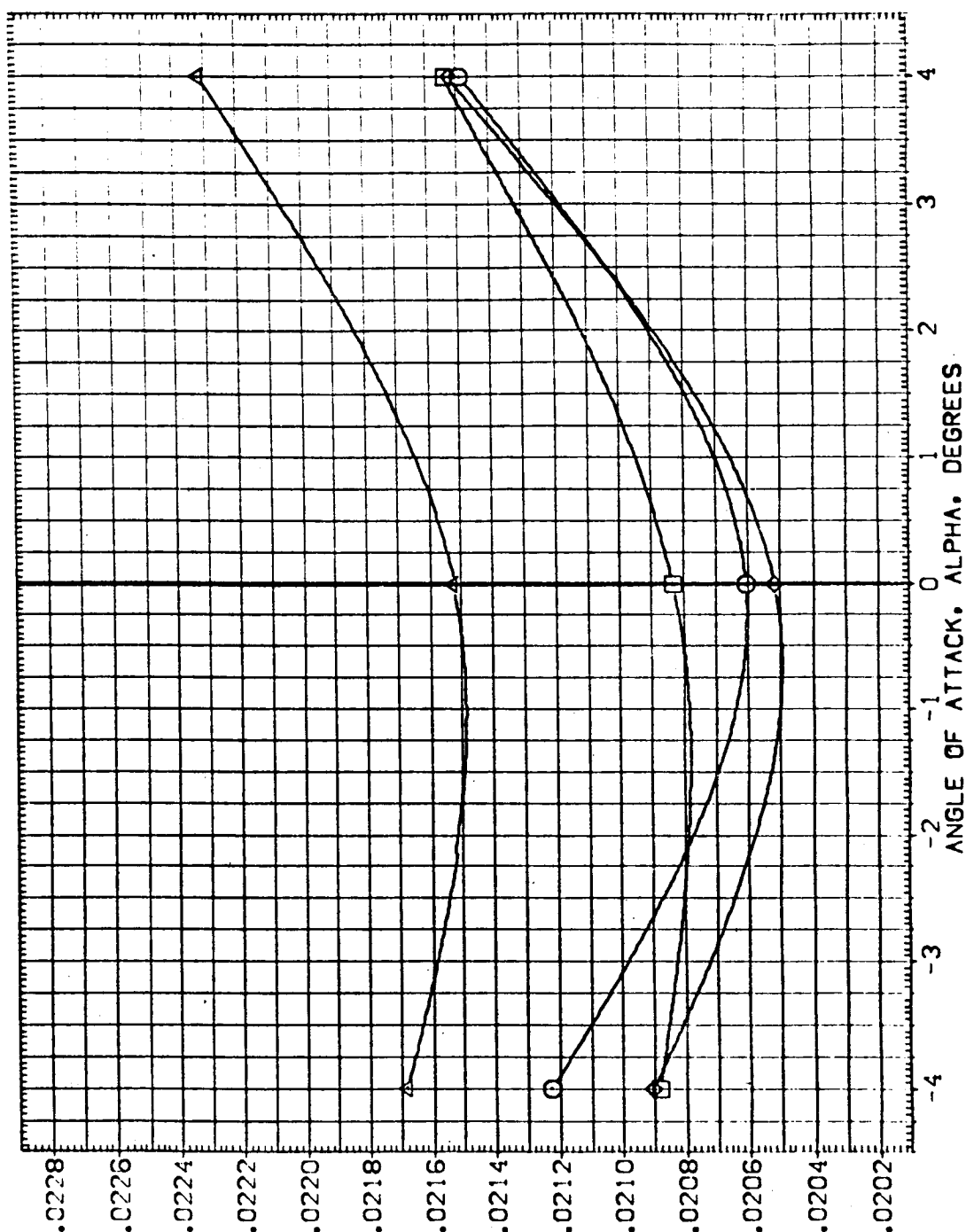


FIG. 17 EFFECT OF PLOMES - MACH=1.4 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0

(A) BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-18	ELV-08	MACH	GINBAL	REFERENCE INFORMATION
[3:0026]	○	ARC11-0141A19 OTS-STRUT SRS-OFF	.000	.000	1.400	1.000	SREF 2690.0000 50.FT.
[3:0030]	◇	ARC11-0141A19 OTS-STRUT SRS-NOM	.000	.000	1.400	1.000	LREF 1290.3000 IN.
[3:0034]	◇	ARC11-0141A19 OTS-STRUT SRS-OFF	.000	.000	1.400	2.000	BREF 1290.3000 IN.
[3:0038]	◇	ARC11-0141A19 OTS-STRUT SRS-NOM	.000	.000	1.400	2.000	XMRP 976.0000 IN.
							YMRP .0000 IN.
							ZMRP 400.0000 IN.
							SCALE .0200

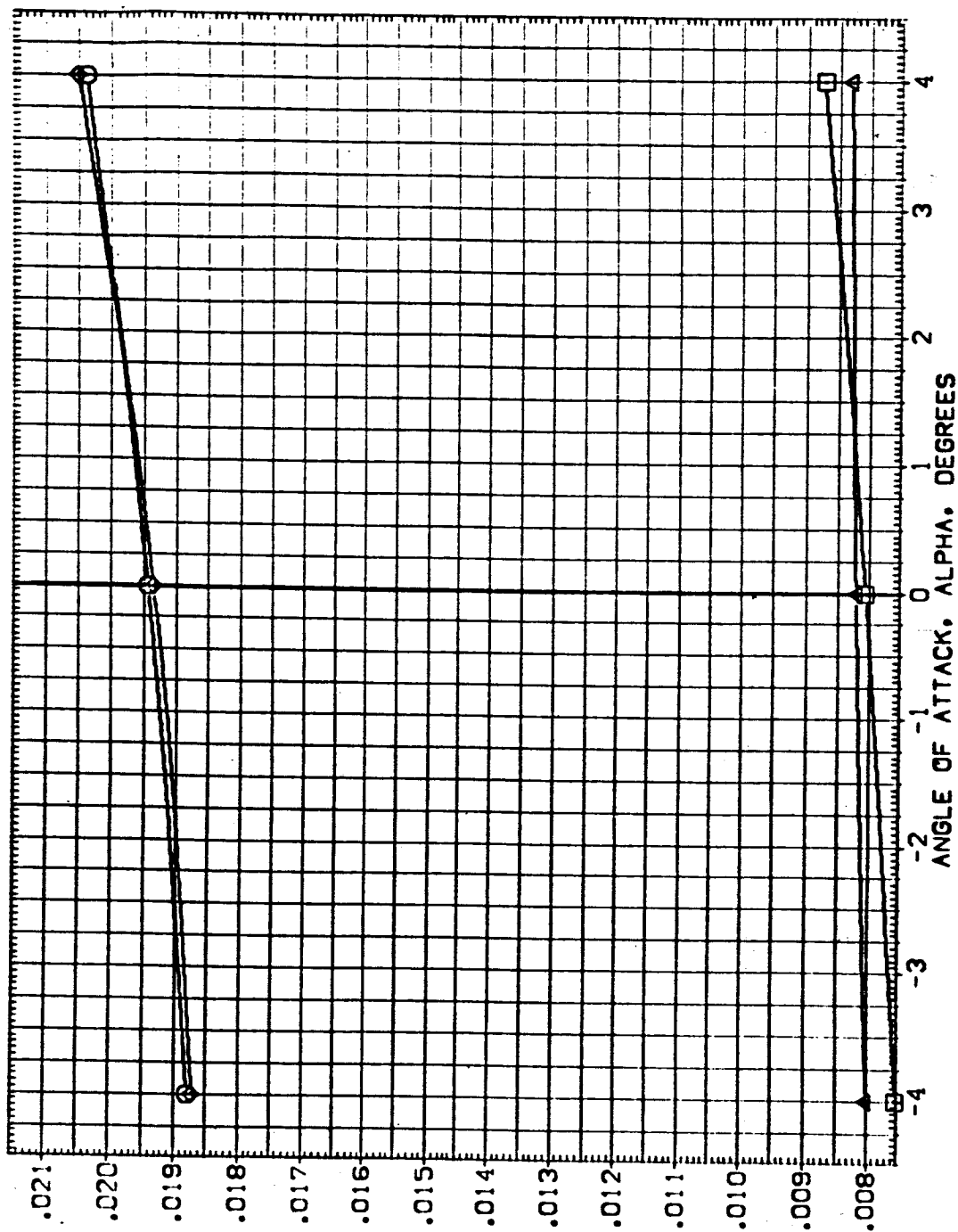


FIG. 17 EFFECT OF PLUMES - MACH=1.4 ELV-18=0.0 ELV-08=0.0 BETA=0.0

CABETA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GIMBAL	REFERENCE INFORMATION
[CE-023]	ARC-1-0.41A19 OTS-STRUT SRB-0FF WPS-0FF	.000	.000	.900	1.000	SREF 2630.0000
[CE-027]	ARC-1-0.41A19 OTS-STRUT SRB-NOM WPS-NOM	.000	.000	.900	1.000	LREF 1290.3000
[CE-031]	ARC-1-0.41A19 OTS-STRUT SRB-0FF WPS-0FF	.000	.000	.900	2.000	BREF 1290.3000
[CE-035]	ARC-1-0.41A19 OTS-STRUT SRB-NOM WPS-NOM	.000	.000	.900	2.000	XMRP 976.0000
						YMRP .0000
						ZMRP .0000
						N: YI
						N: ZI
						SCALE .0200

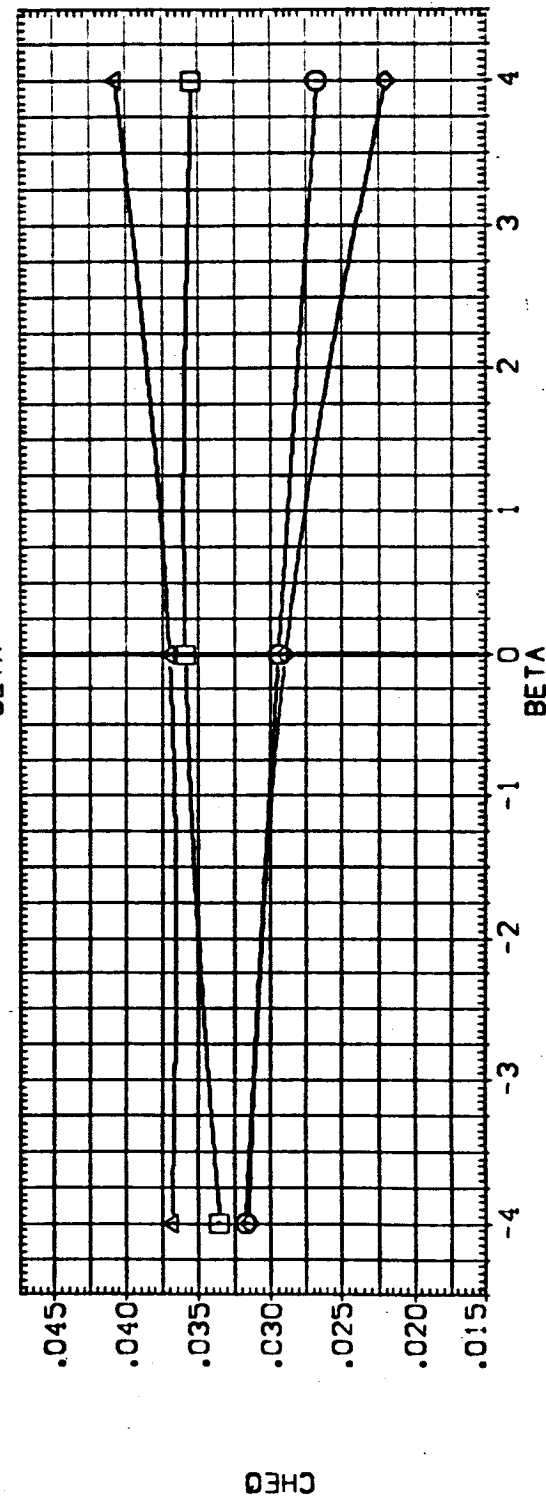
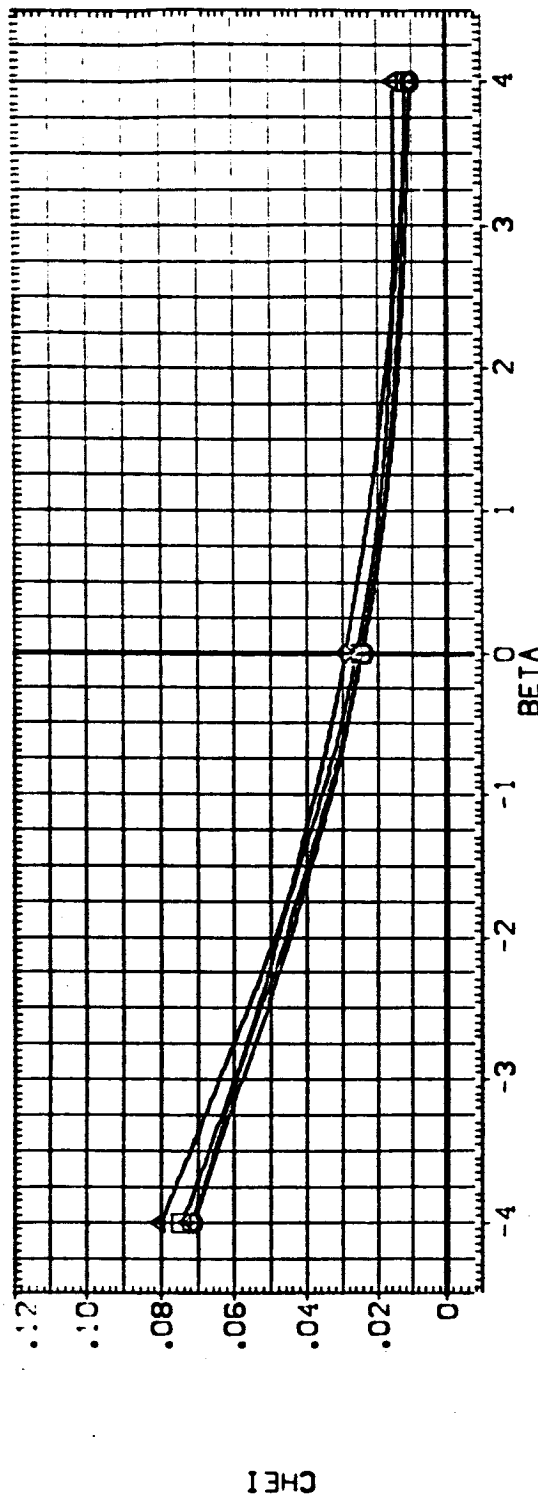


FIG. 18 EFFECT OF PLUMES - MACH=0.9 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

(AJALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION ELV-1B ELV-0B MACH GIMBAL REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GIMBAL	REFERENCE INFORMATION
(CEJ023)	ARC11-014 A19 OTS+STRUT SR3-OFF MPS-OFF	.000	.000	.900	1.000	SREF 2690.0000 SQ.FT.
(CEJ027)	ARC11-014 A19 OTS+STRUT SR3-NOM MPS-NOM	.000	.000	.900	1.000	LREF 1290.3000 IN.
(CEJ031)	ARC11-014 A19 OTS+STRUT SR3-OFF MPS-OFF	.000	.000	.900	2.000	BREF 1290.3000 IN.
(CEJ035)	ARC11-014 A19 OTS+STRUT SR3-NOM MPS-NOM	.000	.000	.900	2.000	XMRP 976.0000 IN.
						YMRP 400.0000 IN.
						ZMRP 400.0000 IN.
						SCALE .0200

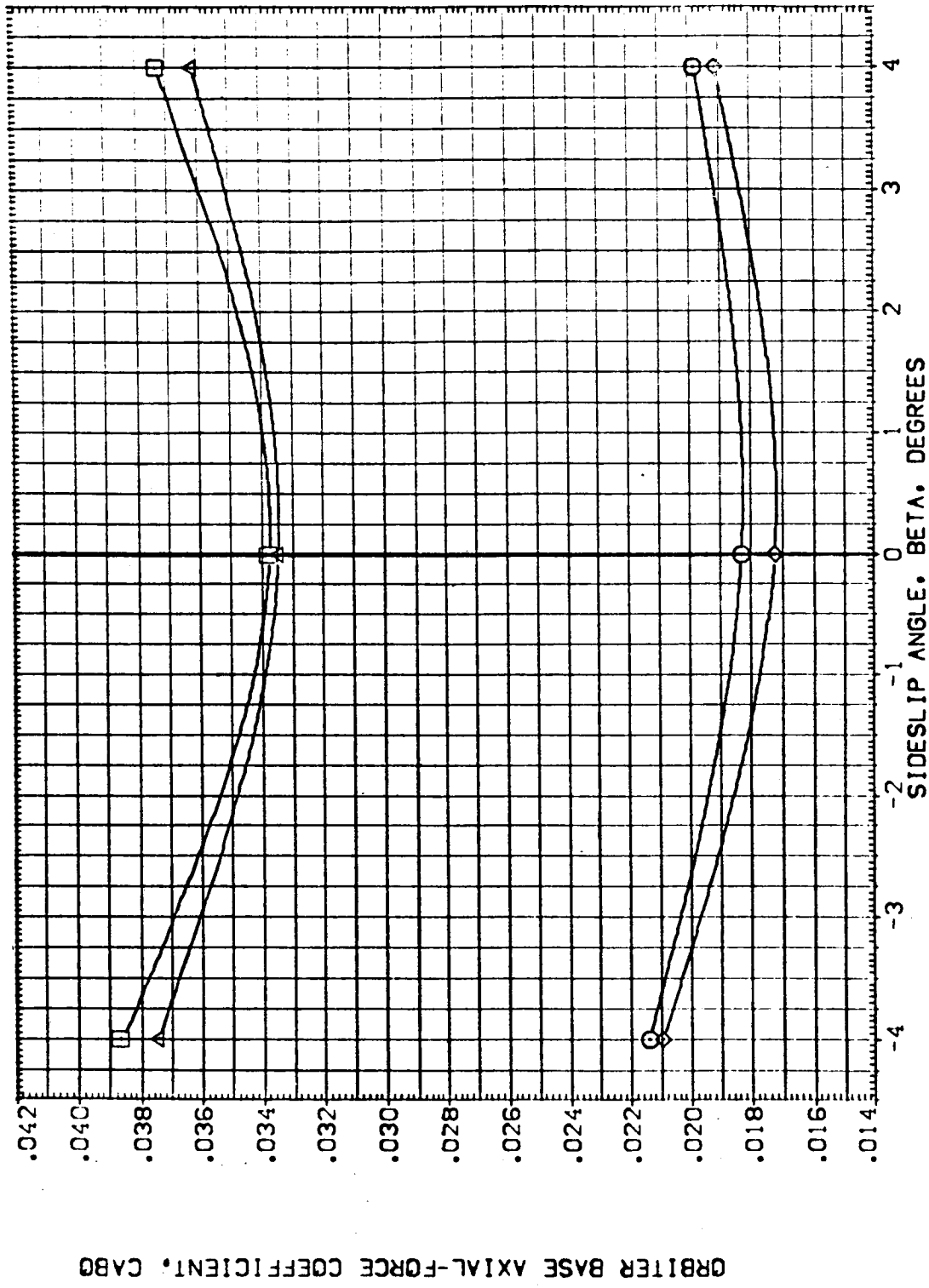


FIG. 18 EFFECT OF PLUMES - MACH=0.9 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

(A) ALPHA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GIMBAL	REFERENCE INFORMATION
[S]UC23	ARC11-0141A19 OTS-STRUT SRS-0FF MPS-0FF	.000	.000	.900	1.000	SREF 2650.0000 SQ.FT.
[S]UC27	ARC11-0141A19 OTS-STRUT SRS-NOM MPS-NOM	.000	.000	.900	1.000	LREF 1290.3000 IN.
[S]UC31	ARC11-0141A19 OTS-STRUT SRS-0FF MPS-0FF	.000	.000	.900	2.000	BREF 1290.3000 IN.
[S]UC35	ARC11-0141A19 OTS-STRUT SRS-NOM MPS-NOM	.000	.000	.900	2.000	XMRB 576.0000 IN. XT
						YMRB .0000 IN. YT
						ZMRB 400.0000 IN. ZT
						SCALE .0200

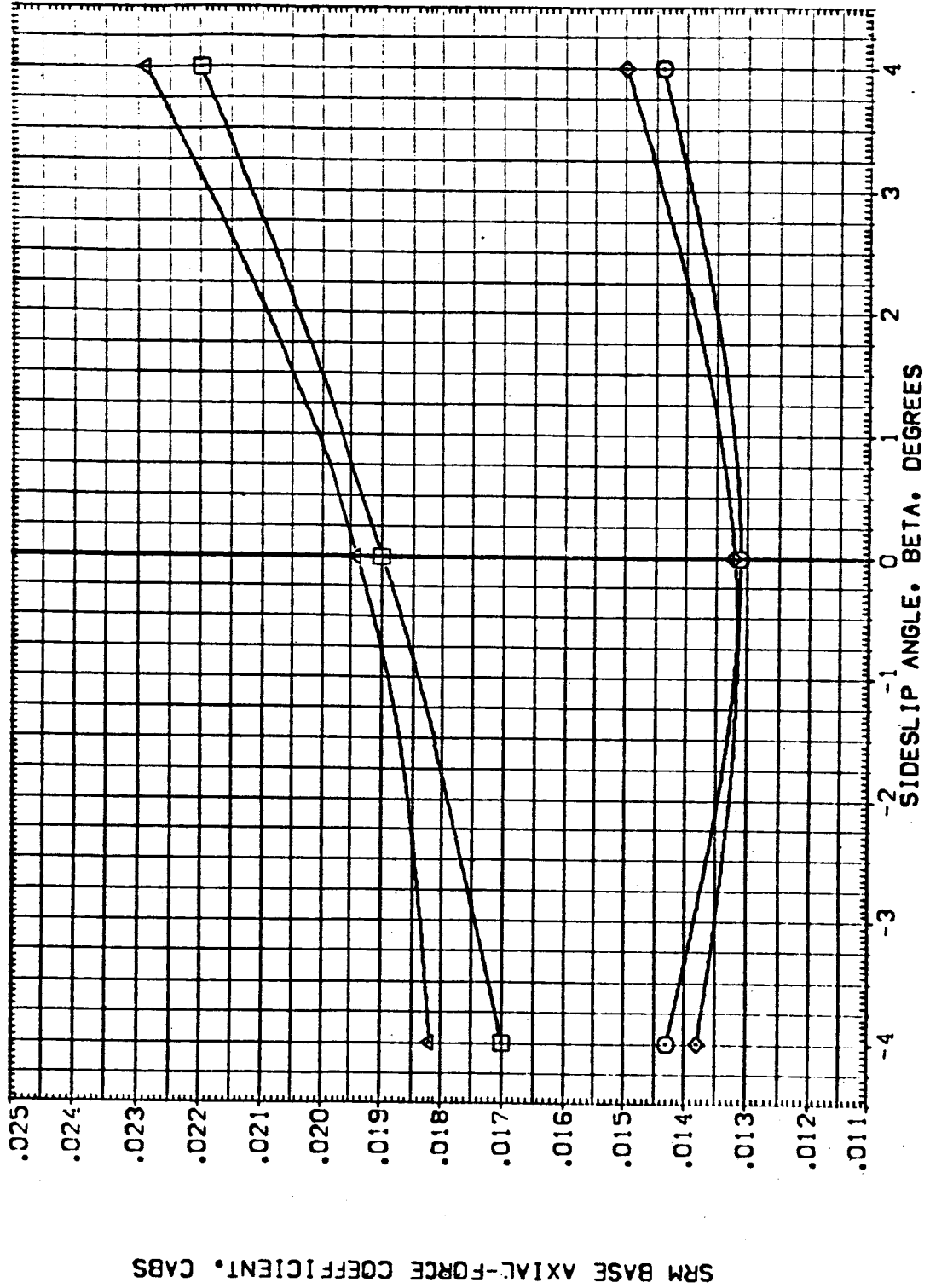


FIG. 18 EFFECT OF PLUMES - MACH=0.9 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

CAJALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GIMBAL	REFERENCE INFORMATION	SO. FT.
[CELC23]	ARC11-0141A19 OTS+STRUT SR3-OFF MPS-OFF	.000	.000	.900	1.000	SREF	2880.0000
[CELC27]	ARC11-0141A19 OTS+STRUT SR3-NOM MPS-NOM	.000	.000	.900	1.000	LREF	1290.3000
[CELC31]	ARC11-0141A19 OTS+STRUT SR3-OFF MPS-OFF	.000	.000	.900	2.000	BREF	1290.3000
[CELC35]	ARC11-0141A19 OTS+STRUT SR3-NOM MPS-NOM	.000	.000	.900	2.000	YMRP	976.0000
						ZMRP	400.0000
						SCALE	.0200

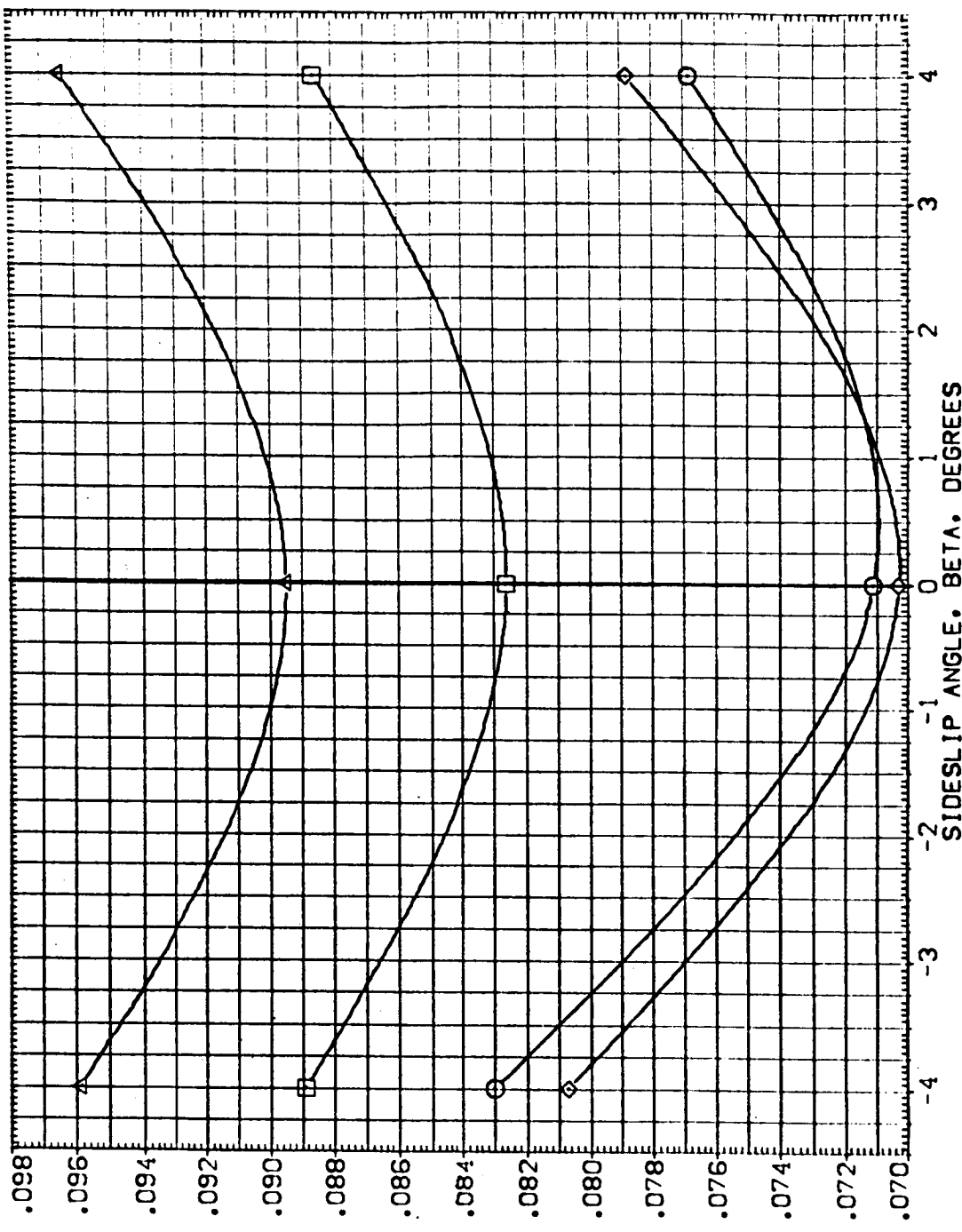


FIG. 18 EFFECT OF PLOMES - MACH=0.9 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

(A) ALPHA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GH-BAL	SREF	50 FT.
[CEUC24]	ARC11-0141A19 QTS-STRUT S98-0FF MPS-0FF	.000	.000	1.100	1.000	2630.0000	IN. XT
[CEUC28]	ARC11-0141A19 QTS-STRUT S98-NOM MPS-NOM	.000	.000	1.100	1.000	1290.3000	IN. XT
[CEUC32]	ARC11-0141A19 QTS-STRUT S98-0FF MPS-0FF	.000	.000	1.100	2.000	1290.3000	IN. XT
[CEUC36]	ARC11-0141A19 QTS-STRUT S98-NOM MPS-NOM	.000	.000	1.100	2.000	976.0000	IN. XT
						400.0000	IN. ZT
						SCALE	.0200

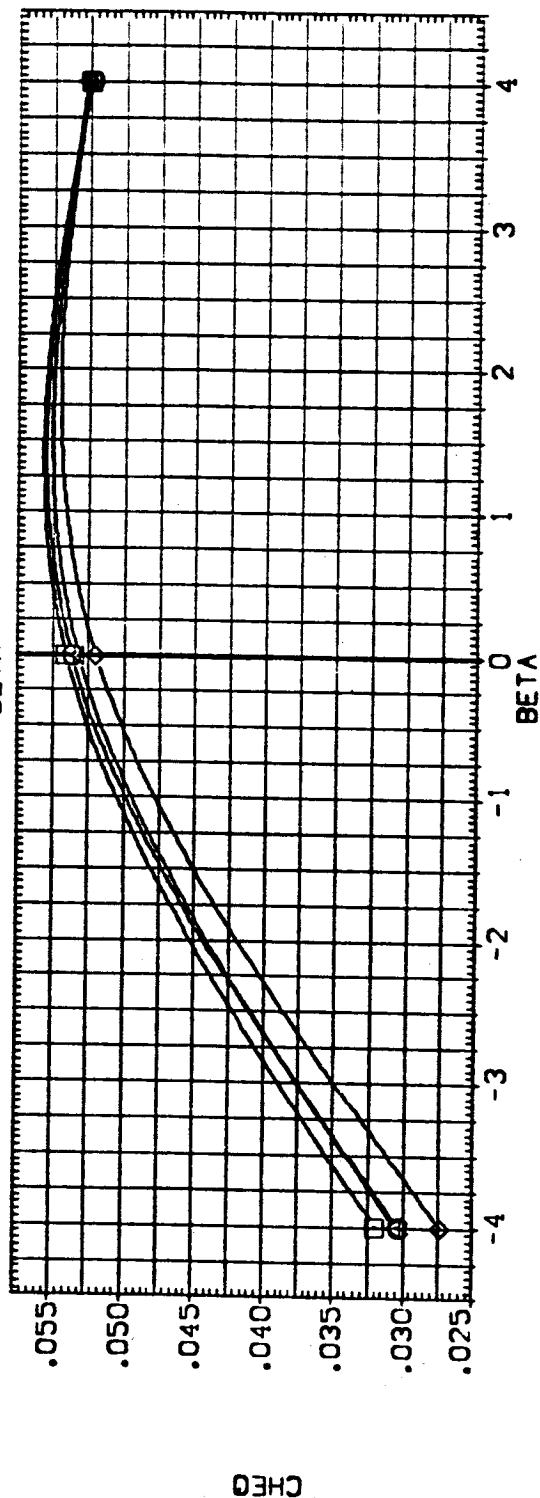
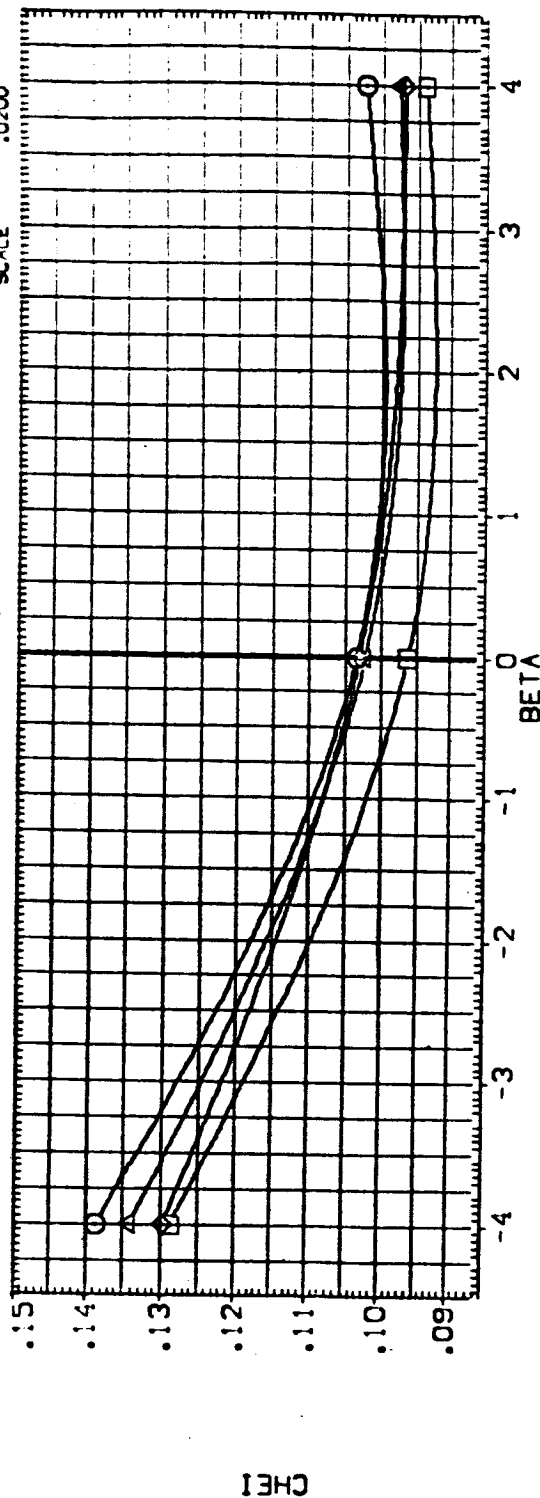


FIG. 19 EFFECT OF PLUMES - MACH=1.1 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0
 CAJALPHA = .00

ORBITER BASE AXIAL-FORCE COEFFICIENT, C_{ABO}

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-18	ELV-08	MACH	GIMBAL	REFERENCE INFORMATION
(CEJ024)	ARC11-0141A19 O1S-S1RUT SRB-OFF MPS-OFF	.000	.000	1.100	1.000	SREF 2690.0000 SQ.FT.
(CEJ028)	ARC11-0141A19 O1S-S1RUT SRB-NOM MPS-NOM	.000	.000	1.100	1.000	LREF 1290.3000 IN.
(CEJ032)	ARC11-0141A19 O1S-S1RUT SRB-OFF MPS-OFF	.000	.000	1.100	2.000	BREF 1290.3000 IN.
(CEJ036)	ARC11-0141A19 O1S-S1RUT SRB-NOM MPS-NOM	.000	.000	1.100	2.000	XMRP 976.0000 IN.
						YMRP .0000 IN.
						ZMRP .0000 IN.
						SCALE .0200

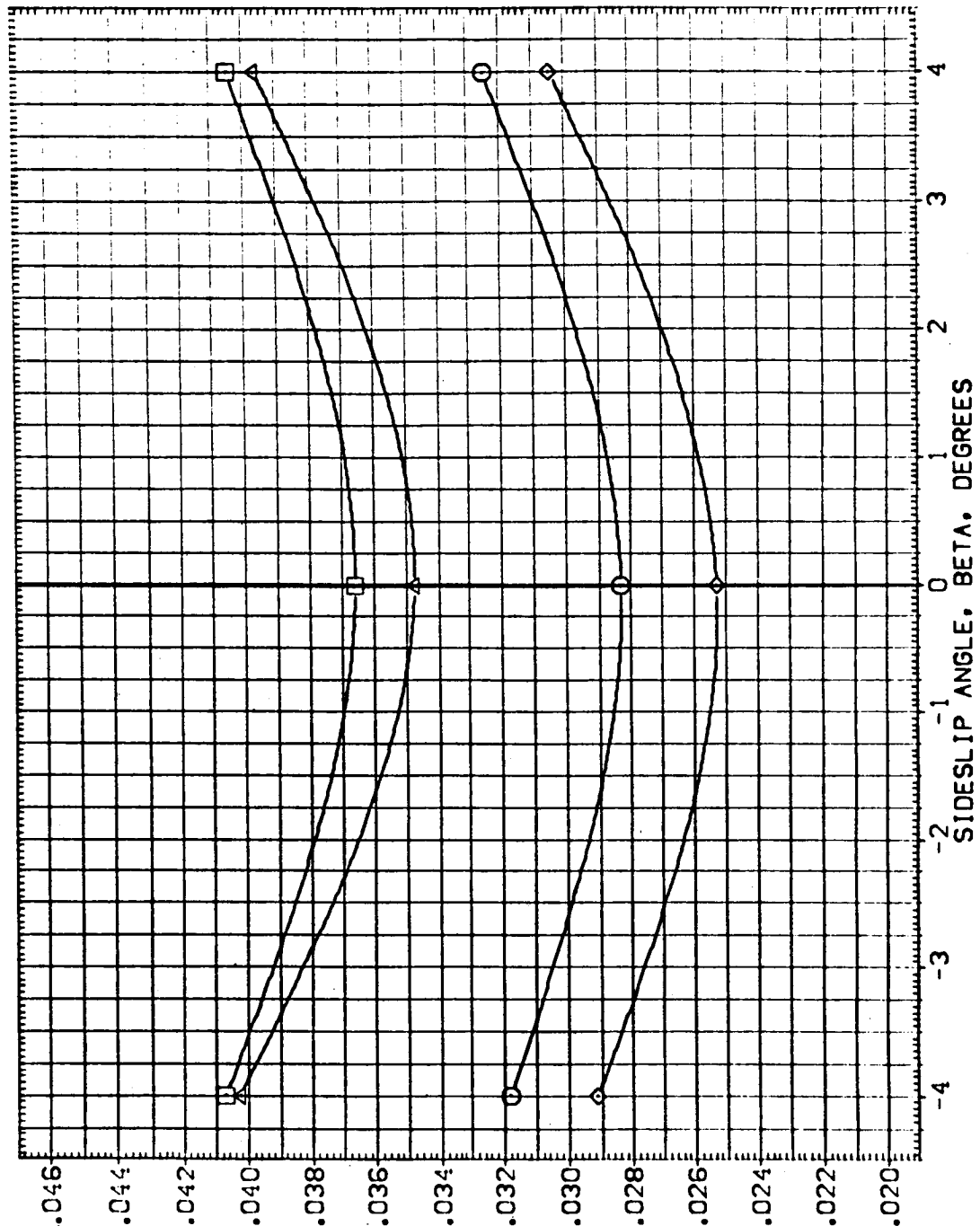


FIG. 19 EFFECT OF PLOMES - MACH=1.1 ELV-18=0.0 ELV-08=0.0 ALPHA=0.0

(A)ALPHA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	GIMBAL	REFERENCE INFORMATION
CE 024	ARC -014 A19 QTS+STRT SRB-OFF MPS-OFF	.000	.000	1.00	1.000	SREF 2690.0000 SQ.FT.
CE 028	ARC -014 A19 QTS+STRT SRB-NOM MPS-NOM	.000	.000	1.00	1.000	LREF 1290.3000 IN.
CE 032	ARC -014 A19 QTS+STRT SRB-OFF MPS-OFF	.000	.000	1.00	2.000	BREF 1290.3000 IN.
CE 036	ARC -014 A19 QTS+STRT SRB-NOM MPS-NOM	.000	.000	1.00	2.000	XMRP 576.0000 IN.
						YMRP 400.0000 IN.
						ZMRP 400.0000 IN.
						SCALE .0200

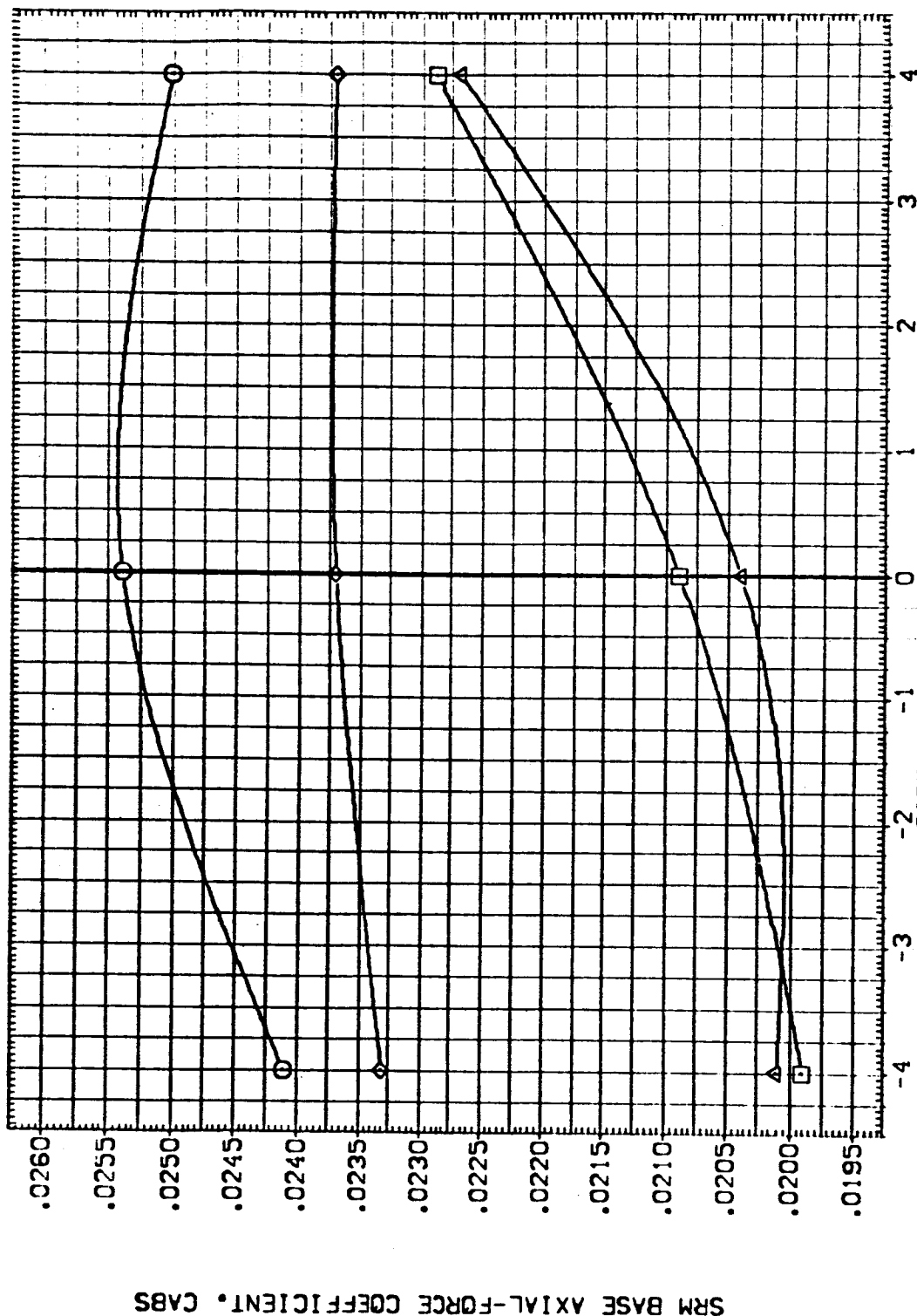


FIG. 19 EFFECT OF PLUMES - MACH=1.1 ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.0

(A) ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	GIMBAL	REFERENCE INFORMATION	SO. FT.
CELO024	ARC -014 A19 OIS-STRUT SPR-OFF MPS-OFF	.000	.000	1.00	1.000	SREF 2690.0000	N.
CELO028	ARC -014 A19 OIS-STRUT SPR-OFF MPS-OFF	.000	.000	1.00	1.000	LREF 290.3000	N.
CELO032	ARC -014 A19 OIS-STRUT SPR-OFF MPS-OFF	.000	.000	1.00	2.000	BREF 290.3000	N.
CELO036	ARC -014 A19 OIS-STRUT SPR-OFF MPS-OFF	.000	.000	1.00	2.000	XMRP 976.0000	N.
						YMRP 400.0000	N.
						ZMRP 400.0000	N.
						SCALE .0200	

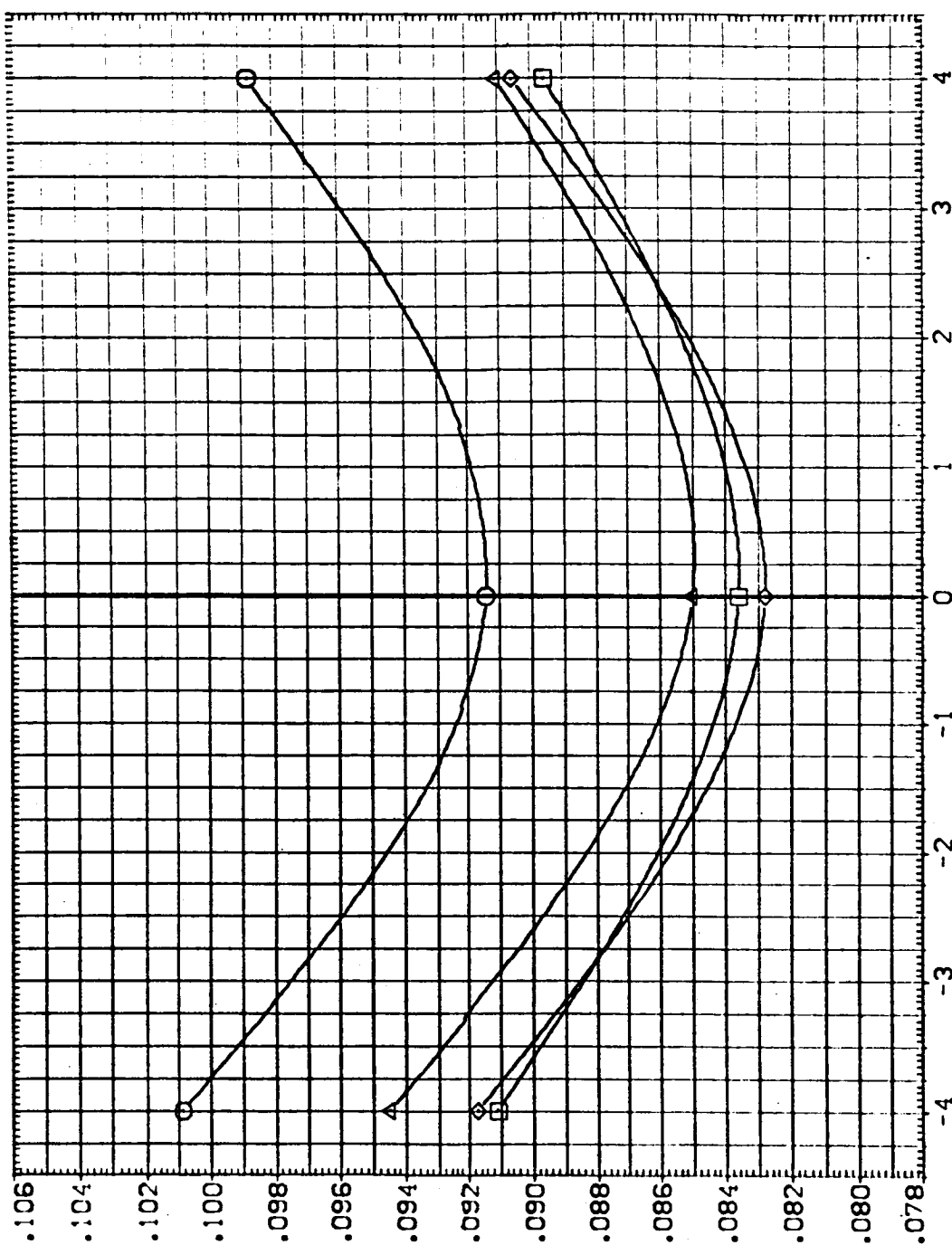


FIG. 19 EFFECT OF PLOMES - MACH=1.1 ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.0

(A) ALPHA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-18	ELV-08	MACH	GINBAL	REFERENCE INFORMATION
[CEUC03]	ARC-0141A19 DIS-STRUT SRB-OFF MPS-OFF	.000	.000	1.250	1.000	SREF 2690.0000 SQ.FT.
[CEUC03]	ARC-0141A19 DIS-STRUT SRB-NOM MPS-NOM	.000	.000	1.250	1.000	LREF 1250.0000 IN.
[CEUC03]	ARC-0141A19 DIS-STRUT SRB-OFF MPS-OFF	.000	.000	1.250	2.000	BREF 1250.0000 IN.
[CEUC03]	ARC-0141A19 DIS-STRUT SRB-NOM MPS-NOM	.000	.000	1.250	2.000	XMRP 576.0000 IN. XT
						YMRP .0000 IN. YT
						ZMRP 400.0000 IN. ZT
						SCALE .0200

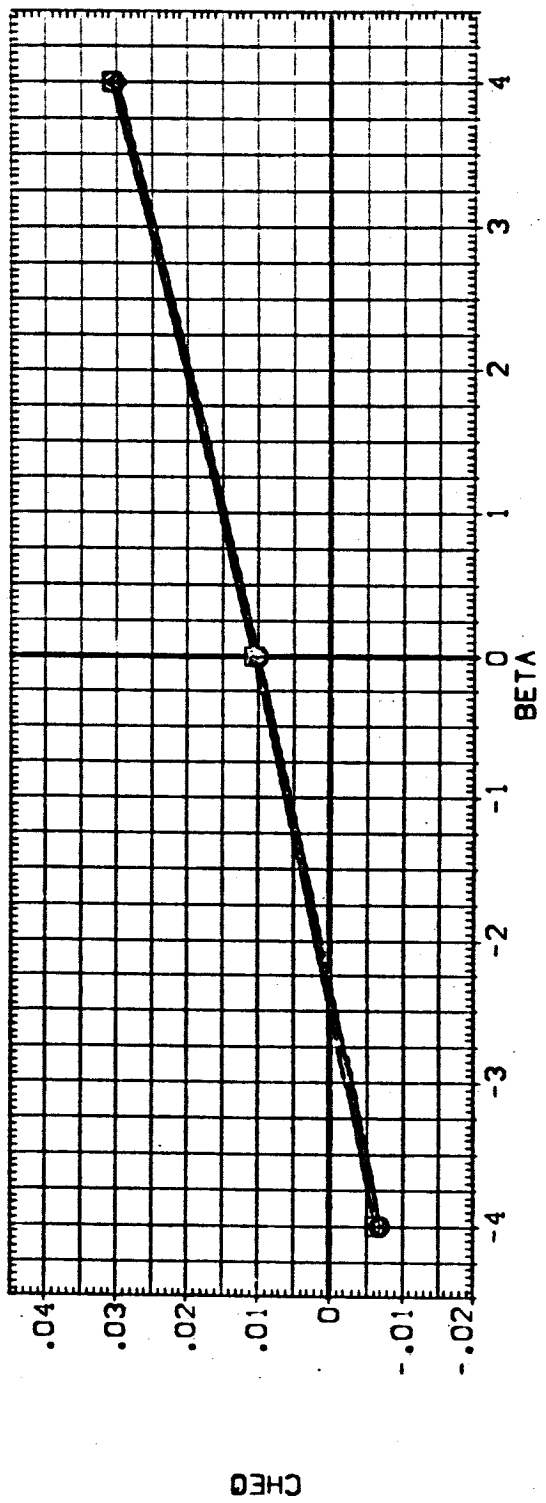
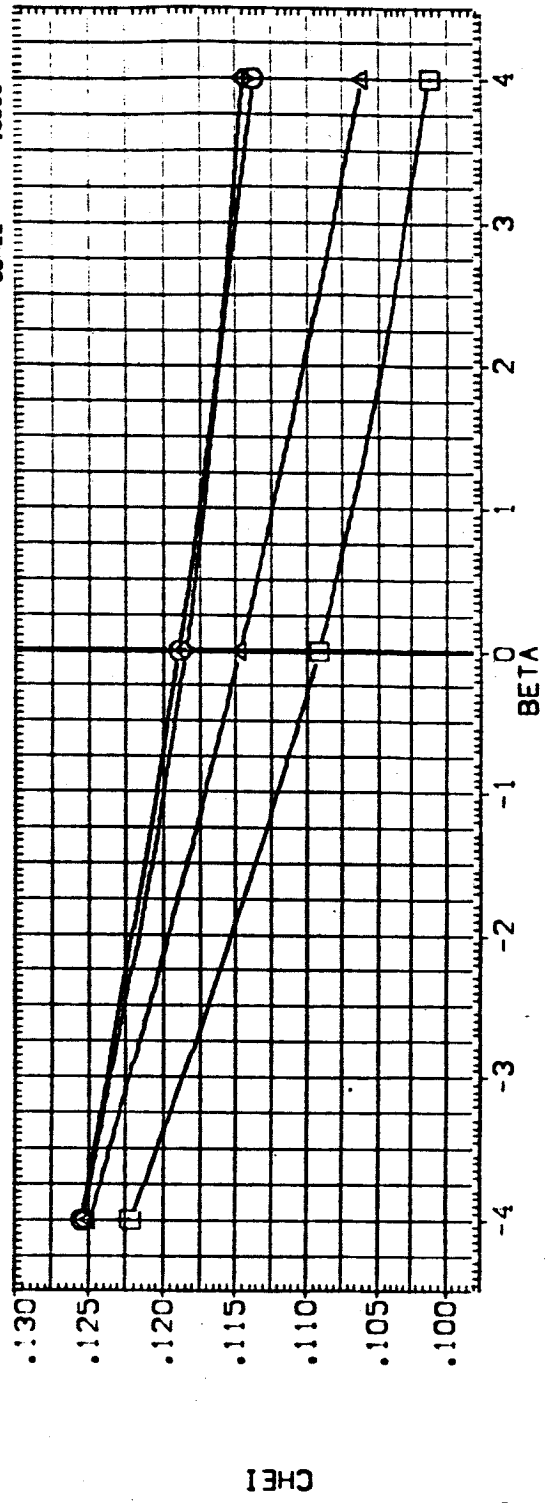


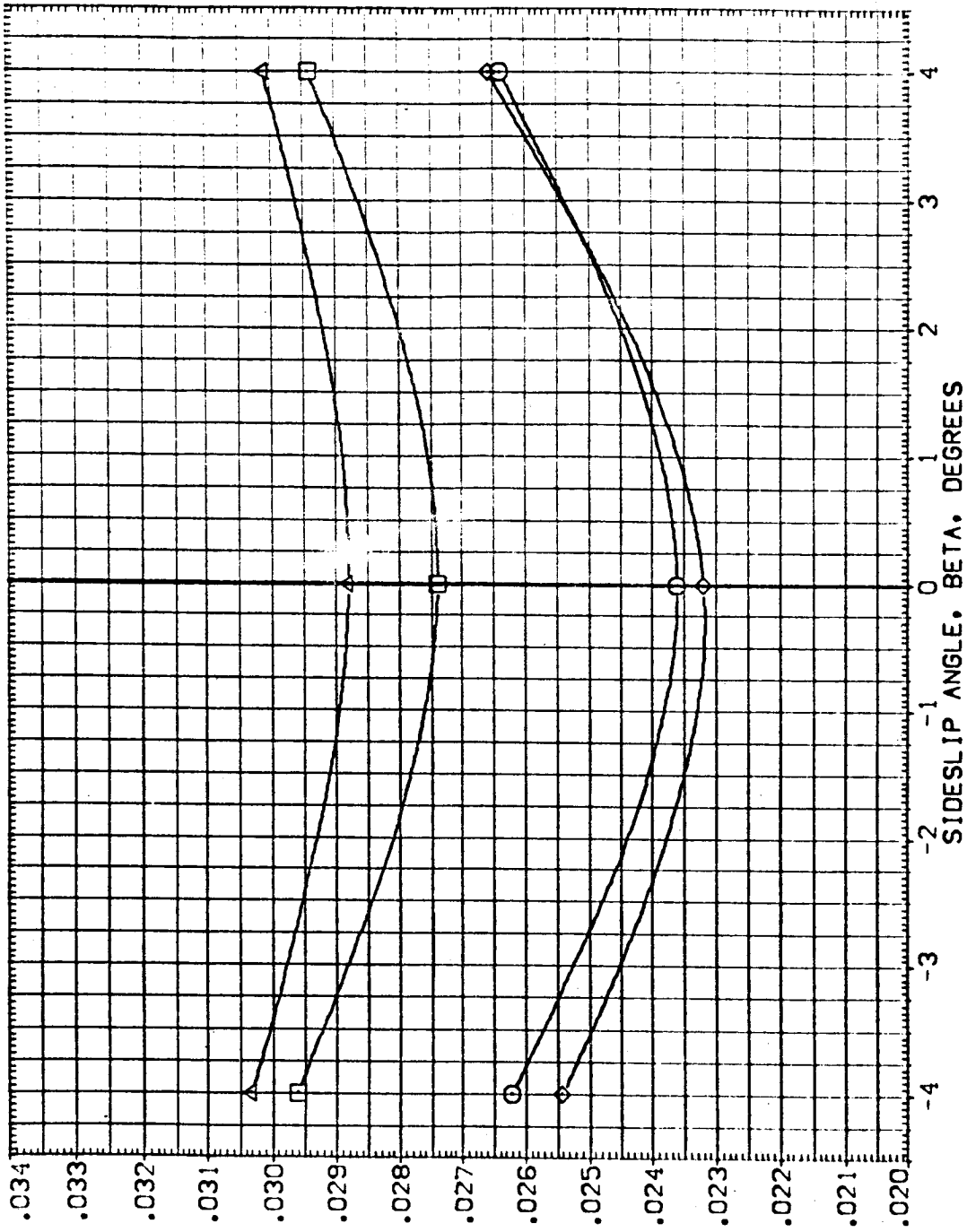
FIG. 20 EFFECT OF PLUMES - MACH=1.25 ELV-18=0.0 ELV-08=0.0 ALPHA=0.0

(A)ALPHA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-09	MACH	GIMBAL	SREF	LREF	BREF	XMRP	YMRP	ZMRP	SCALE	SQ.FT.	IN.	IN.	IN.	IN.	IN.	IN.
CELO025	ARC11-0141A19 DIS+STRT SRB-OFF MPS-NOM	.000	.000	1.250	1.000	2690.0000	1.000	1.290.3000	1.290.3000	976.0000	400.0000	.0200	50.00	1.00	1.00	1.00	1.00	1.00	1.00
CELO029	ARC11-0141A19 DIS+STRT SRB-NOM MPS-NOM	.000	.000	1.250	1.000	2690.0000	1.000	1.290.3000	1.290.3000	976.0000	400.0000	.0200	50.00	1.00	1.00	1.00	1.00	1.00	1.00
CELO033	ARC11-0141A19 DIS+STRT SRB-OFF MPS-OFF	.000	.000	1.250	2.000	2690.0000	2.000	1.290.3000	1.290.3000	976.0000	400.0000	.0200	50.00	1.00	1.00	1.00	1.00	1.00	1.00
CELO037	ARC11-0141A19 DIS+STRT SRB-NOM MPS-NOM	.000	.000	1.250	2.000	2690.0000	2.000	1.290.3000	1.290.3000	976.0000	400.0000	.0200	50.00	1.00	1.00	1.00	1.00	1.00	1.00

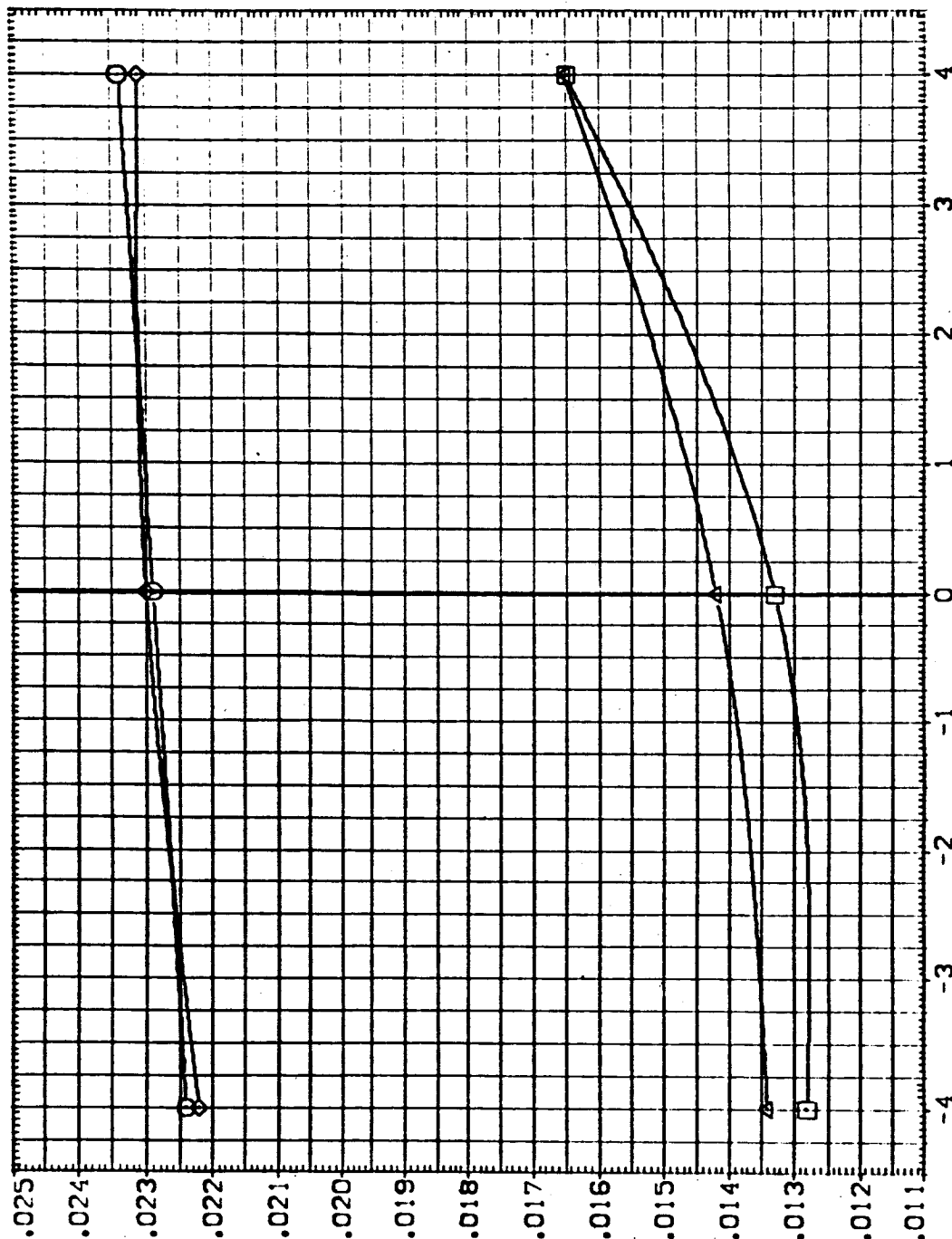


ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 20 EFFECT OF PLOMES - MACH=1.25 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

CALPHA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GIMBAL	REFERENCE INFORMATION
[CEJ025]	ARC11-0141A19 O1S-STRUT S9B-0FF MPS-0FF	.000	.000	1.250	1.000	SREF 2690.0000 SQ.FT.
[CEJ029]	ARC11-0141A19 O1S-STRUT S9B-0FF MPS-0FF	.000	.000	1.250	1.000	LREF 1290.3000 IN.
[CEJ033]	ARC11-0141A19 O1S-STRUT S9B-0FF MPS-0FF	.000	.000	1.250	2.000	BREF 1290.3000 IN.
[CEJ037]	ARC11-0141A19 O1S-STRUT S9B-0FF MPS-0FF	.000	.000	1.250	2.000	XMRP 976.0000 IN.
						YMRP .0000 IN.
						ZMRP .0000 IN.
						SCALE 400.0000
						.0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

SIDESLIP ANGLE, BETA, DEGREES

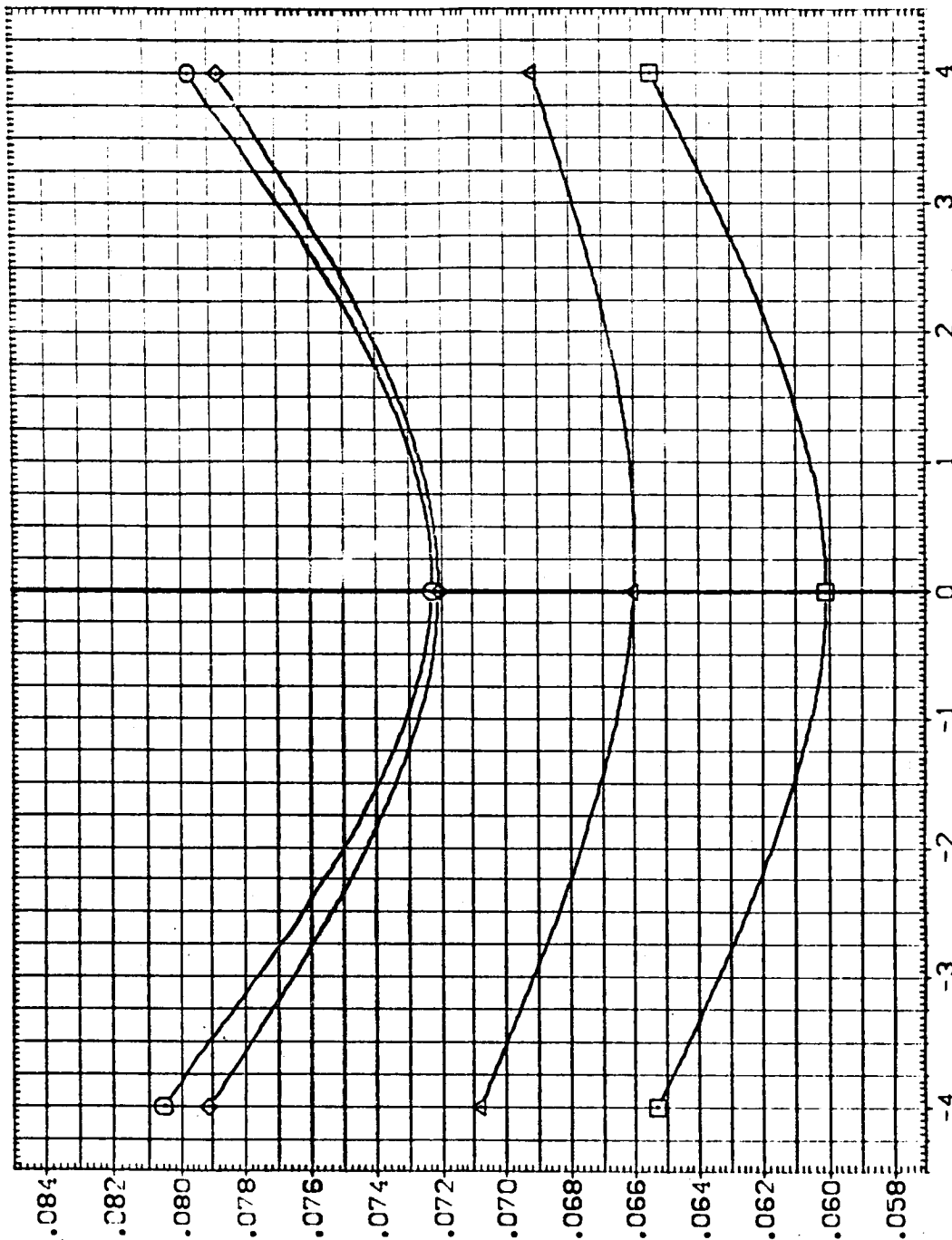
FIG. 20 EFFECT OF PLUMES - MACH=1.25 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

(AJALPHA = .00

DATA SET SYMBOLS: (C) (D) (E) (F) (G) (H) (I) (J) (K) (L) (M) (N) (O) (P) (Q) (R) (S) (T) (U) (V) (W) (X) (Y) (Z)

CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS-STRUT SRS-OFF MPS-OFF
 ARC11-0141A19 OTS-STRUT SRS-NOM MPS-NOM
 ARC11-0141A19 OTS-STRUT SRS-OFF MPS-OFF
 ARC11-0141A19 OTS-STRUT SRS-NOM MPS-NOM

ELV-1B ELV-0B MACH GIMBAL REFERENCE INFORMATION SQ.FT.
 .000 .000 1.250 1.000 SREF 2690.0000 IN.
 .000 .000 1.250 1.000 LREF 1290.3000 IN.
 .000 .000 1.250 2.000 BREF 1290.3000 IN.
 .000 .000 1.250 2.000 XMRP 976.0000 IN.
 .000 .000 1.250 2.000 YMRP 976.0000 IN.
 .000 .000 1.250 2.000 ZMRP 400.0000 IN.
 .000 .000 1.250 2.000 SCALE .0200



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 20 EFFECT OF PLUMES - MACH=1.25 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

(A) ALPHA = .00

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DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GIMBAL	REFERENCE INFORMATION
CE026	ARC11-014 A19 OTS+STRUT SRB-OFF MPS-OFF	.000	.000	1.400	1.000	SREF 2690.0000
CE030	ARC11-014 A19 OTS+STRUT SRB-NOM MPS-NOM	.000	.000	1.400	1.000	LREF 1290.3000
CE034	ARC11-014 A19 OTS+STRUT SRB-OFF MPS-OFF	.000	.000	1.400	2.000	BREF 1290.3000
CE038	ARC11-014 A19 OTS+STRUT SRB-NOM MPS-NOM	.000	.000	1.400	2.000	XREF 576.0000
						YREF .0000
						ZREF 400.0000
						SCALE .0200

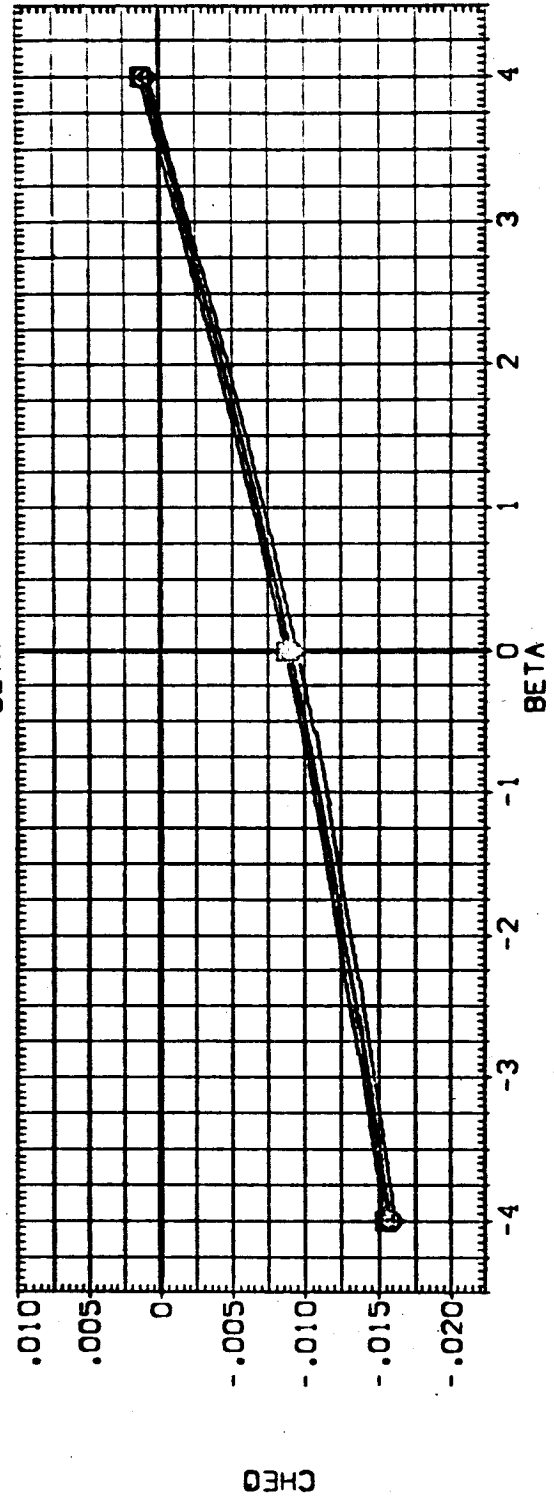
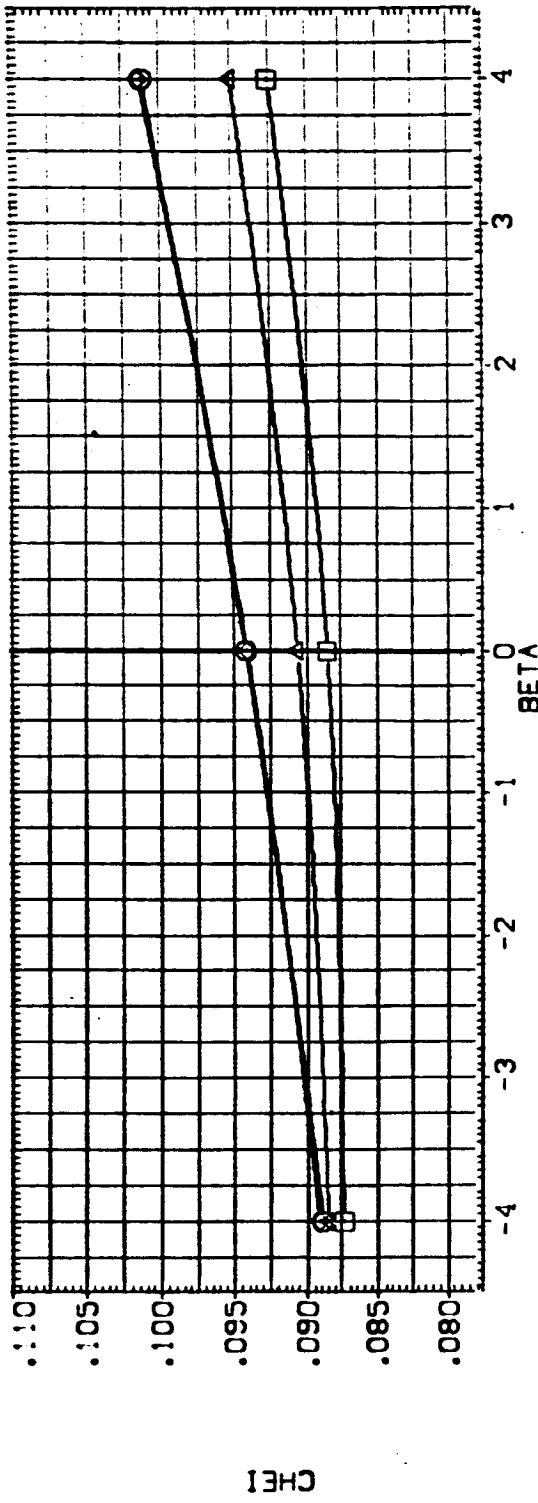


FIG. 21 EFFECT OF PLUMES - MACH=1.4 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

DATA SET SYMBOL CONFIGURATION DESCRIPTION ELV-1B ELV-0B MACH GIMBAL REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GIMBAL	REFERENCE INFORMATION
000001	ARC-1-01A1A19 OIS-STRUT SPS-0FF MPS-0FF	.000	.000	1.400	1.000	SREF 2690.0000 SQ.FT.
000002	ARC-1-01A1A19 OIS-STRUT SPS-0FF MPS-0FF	.000	.000	1.400	1.000	LREF 1290.3000 IN.
000003	ARC-1-01A1A19 OIS-STRUT SPS-0FF MPS-0FF	.000	.000	1.400	2.000	BREF 1290.3000 IN.
000004	ARC-1-01A1A19 OIS-STRUT SPS-0FF MPS-0FF	.000	.000	1.400	2.000	X-REF 576.0000 IN.
000005	ARC-1-01A1A19 OIS-STRUT SPS-0FF MPS-0FF	.000	.000	1.400	2.000	Y-REF 400.0000 IN.
000006	ARC-1-01A1A19 OIS-STRUT SPS-0FF MPS-0FF	.000	.000	1.400	2.000	Z-REF 400.0000 IN.
000007	ARC-1-01A1A19 OIS-STRUT SPS-0FF MPS-0FF	.000	.000	1.400	2.000	SCALE .0200

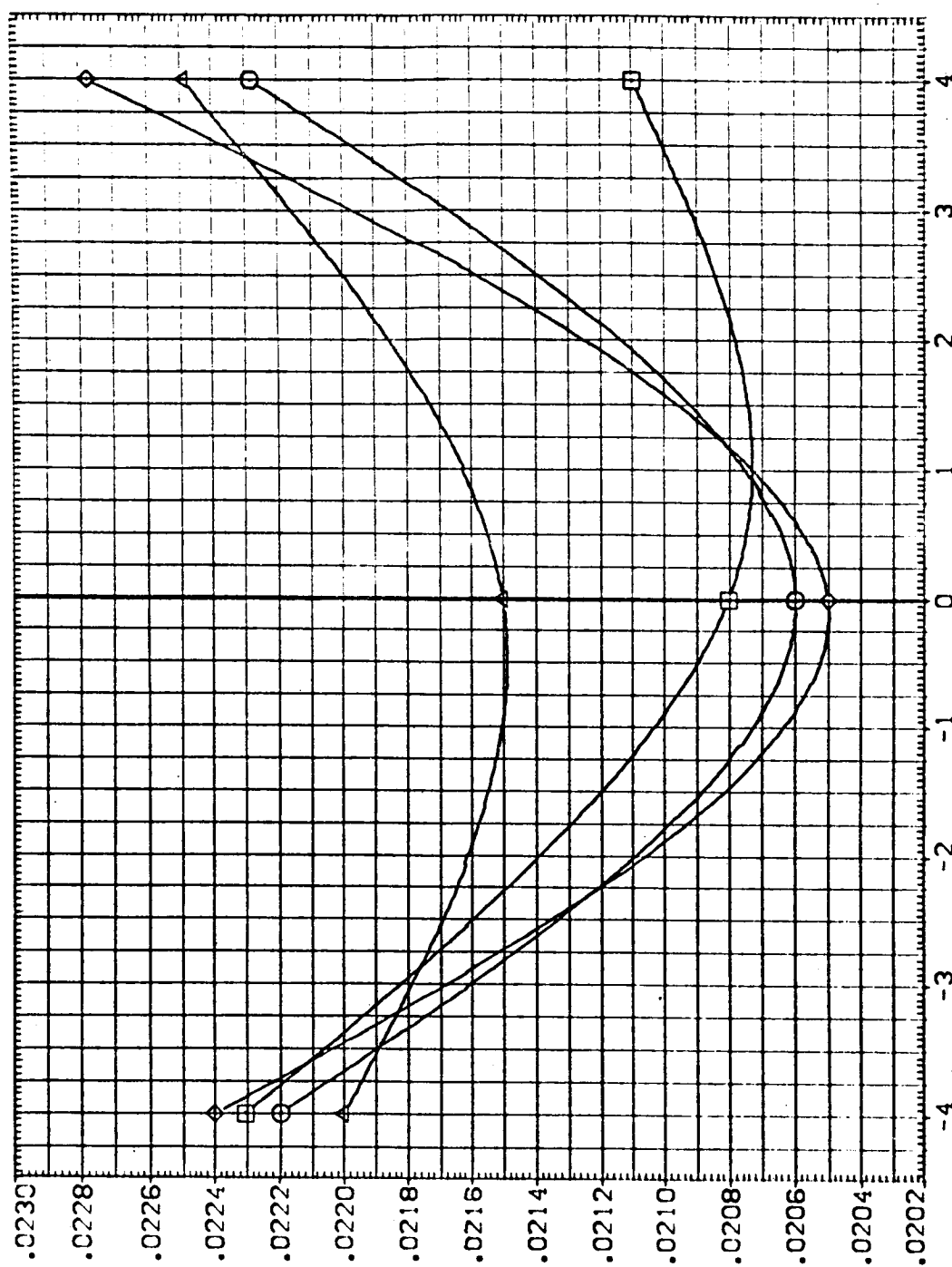


FIG. 21 EFFECT OF PLUMES - MACH=1.4 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

(A) ALPHA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	GIMBAL	REFERENCE INFORMATION
[CEUC36]	ARC11-0141A19 OTS-STRUT SPS-0FF WPS-0FF	.000	.000	1.400	1.000	SREF 2690.0000 50.FT.
[CEUC30]	ARC11-0141A19 OTS-STRUT SPS-NOM WPS-NOM	.000	.000	1.400	1.000	LREF 1290.3000 IN.
[CEUC31]	ARC11-0141A19 OTS-STRUT SPS-0FF WPS-0FF	.000	.000	1.400	2.000	BREF 1290.3000 IN.
[CEUC38]	ARC11-0141A19 OTS-STRUT SPS-NOM WPS-NOM	.000	.000	1.400	2.000	XMRP 976.0000 IN. XT
						YMRP .0000 IN. YT
						ZMRP 400.0000 IN. ZT
						SCALE .0200

SRM BASE AXIAL-FORCE COEFFICIENT, CABS

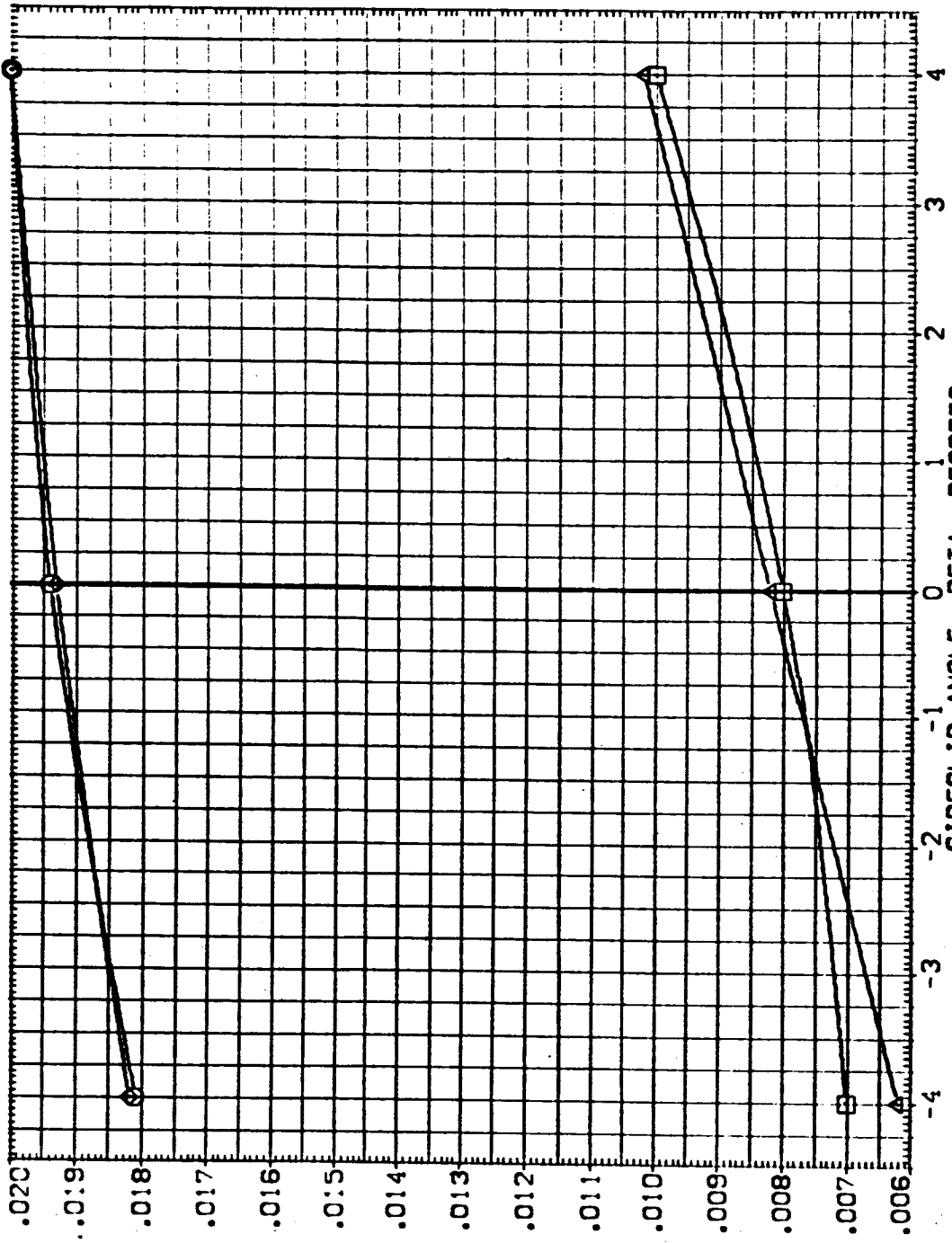


FIG. 21 EFFECT OF PLUMES - MACH=1.4 ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.0

CAJALPHA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	GIMBAL	REFERENCE INFORMATION
(E) 005	ARC 11-0141A19 OTS-STRUT SRS-NOM	8.000	4.000	.900	.000	SREF 2690.0000 SO.FT.
(E) 009	ARC 11-0141A19 OTS-STRUT SRS-NOM	8.000	4.000	.900	.000	LREF 1290.3000 IN.
(E) 013	ARC 11-0141A19 OTS-STRUT SRS-LGV	8.000	4.000	.900	.000	BREF 1290.3000 IN.
(E) 017	ARC 11-0141A19 OTS-STRUT SRS-HI	8.000	4.000	.900	.000	XMRP 976.0000 IN. XT
						YMRP .0000 IN. YT
						ZMRP 400.0000 IN. ZT
						SCALE .0000

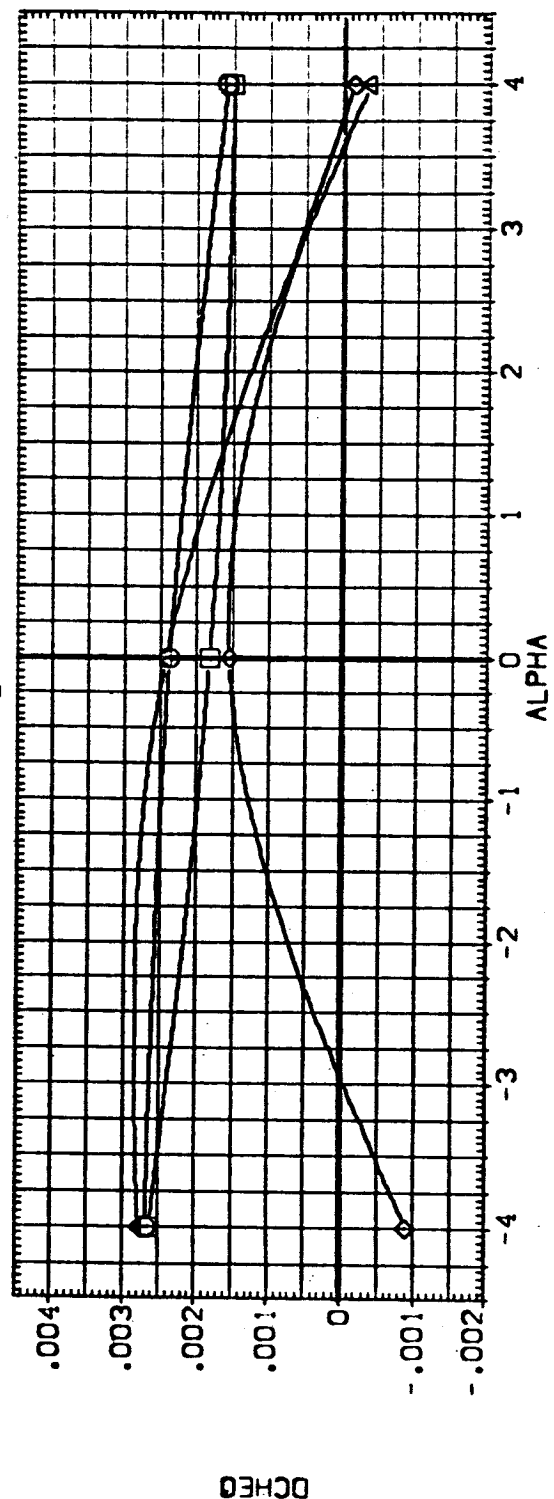
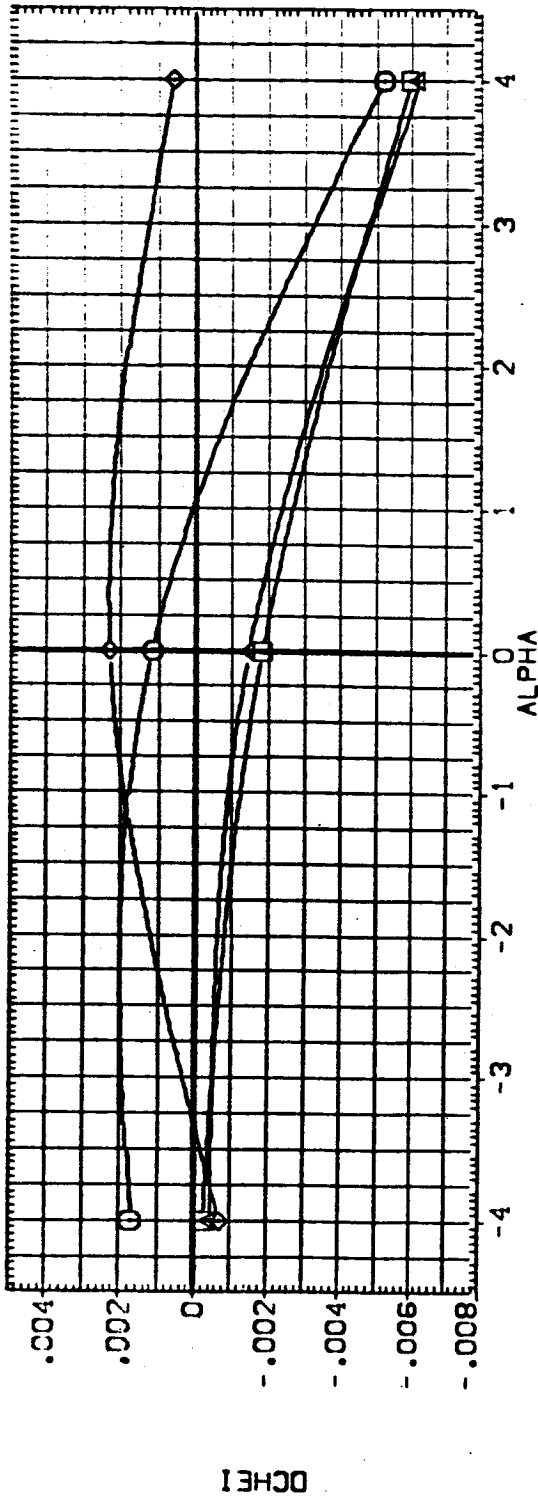


FIG. 22 INCREMENTAL EFFECT OF PLUMES - MACH=0.9 ELV-IB=8.0 ELV-OB=4.0 BETA=0.0
 (A) BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GIMBAL	REFERENCE INFORMATION
0	ARC11-0141A19 OTS-STRUT SRS-0FF MPS-0FF	8.000	4.000	1.250	1.000	SREF 2690.0000 SQ.FT.
1	ARC11-0141A19 OTS-STRUT SRS-0FF MPS-0FF	8.000	4.000	1.250	1.000	LREF 1250.3000 IN.
2	ARC11-0141A19 OTS-STRUT SRS-0FF MPS-0FF	8.000	4.000	1.250	1.000	BREF 1250.3000 IN.
3	ARC11-0141A19 OTS-STRUT SRS-0FF MPS-0FF	8.000	4.000	1.250	1.000	YMRP 976.0000 IN.
4	ARC11-0141A19 OTS-STRUT SRS-0FF MPS-0FF	8.000	4.000	1.250	1.000	ZMRP 400.0000 IN.
						SCALE .0200

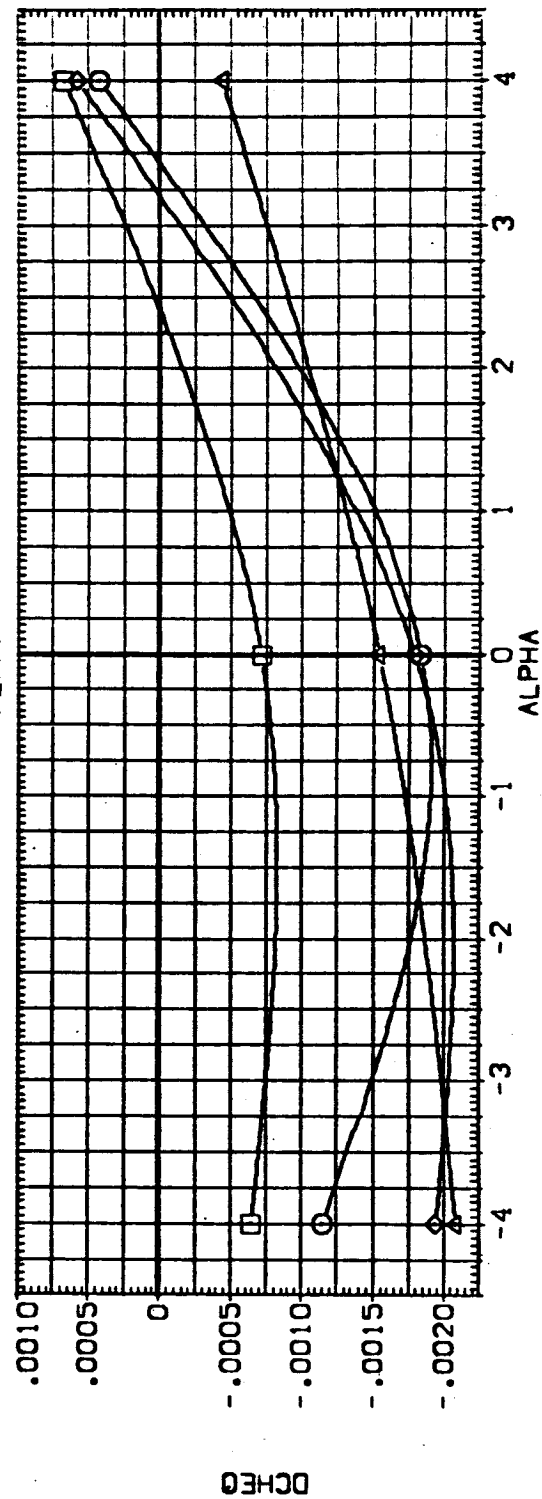
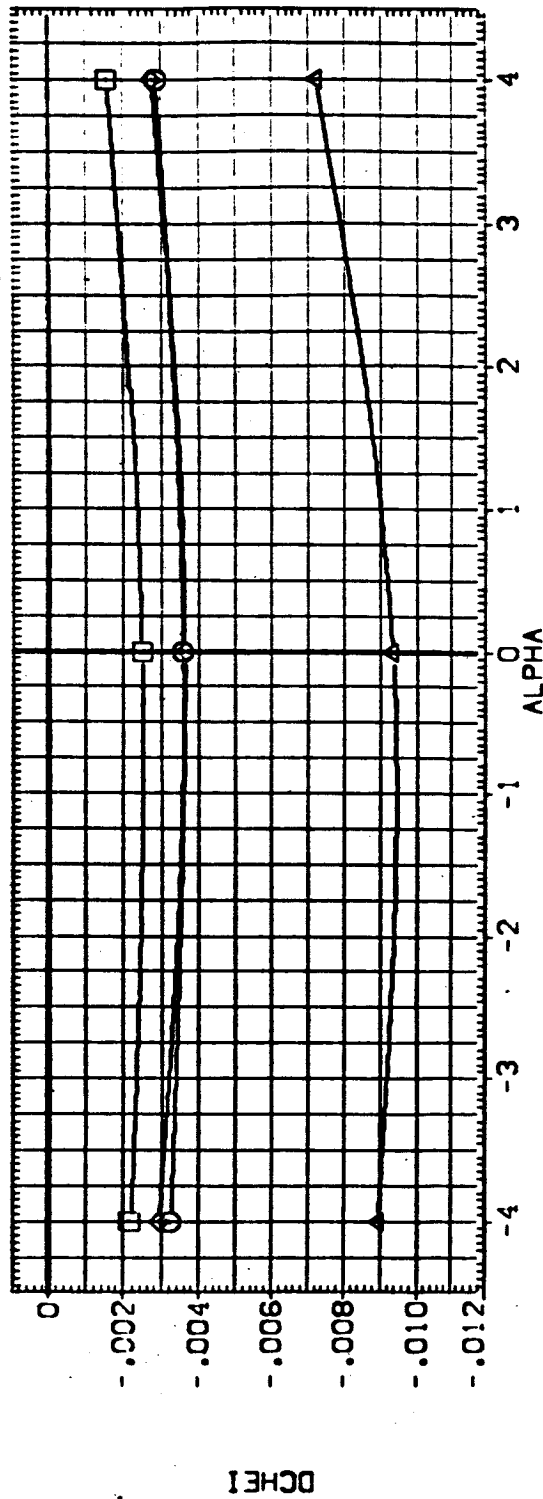


FIG. 24 INCREMENTAL EFFECT OF PLUMES - MACH=1.25 ELV-1B=8.0 ELV-0B=4.0 BETA=0.0
 (A) BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[EEL008] ○ ARC11-0141A19 OTS-STRUT SRB-NOM MPS-NOM

[EEL012] ◇ ARC11-0141A19 OTS-STRUT SRB-LOW MPS-NOM

[EEL016] △ ARC11-0141A19 OTS-STRUT SRB-NOM MPS-OFF

[EEL020] □ ARC11-0141A19 OTS-STRUT SRB-HI MPS-HI

ELV-1B ELV-08 MACH GIMBAL

8.000 4.000 1.400 1.000

8.000 4.000 1.400 1.000

8.000 4.000 1.400 1.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.

LREF 1290.3000 IN.

BREF 1290.3000 IN.

XMRP 976.0000 IN.

YMRP .0000 IN.

ZMRP 400.0000 IN.

SCALE .0200

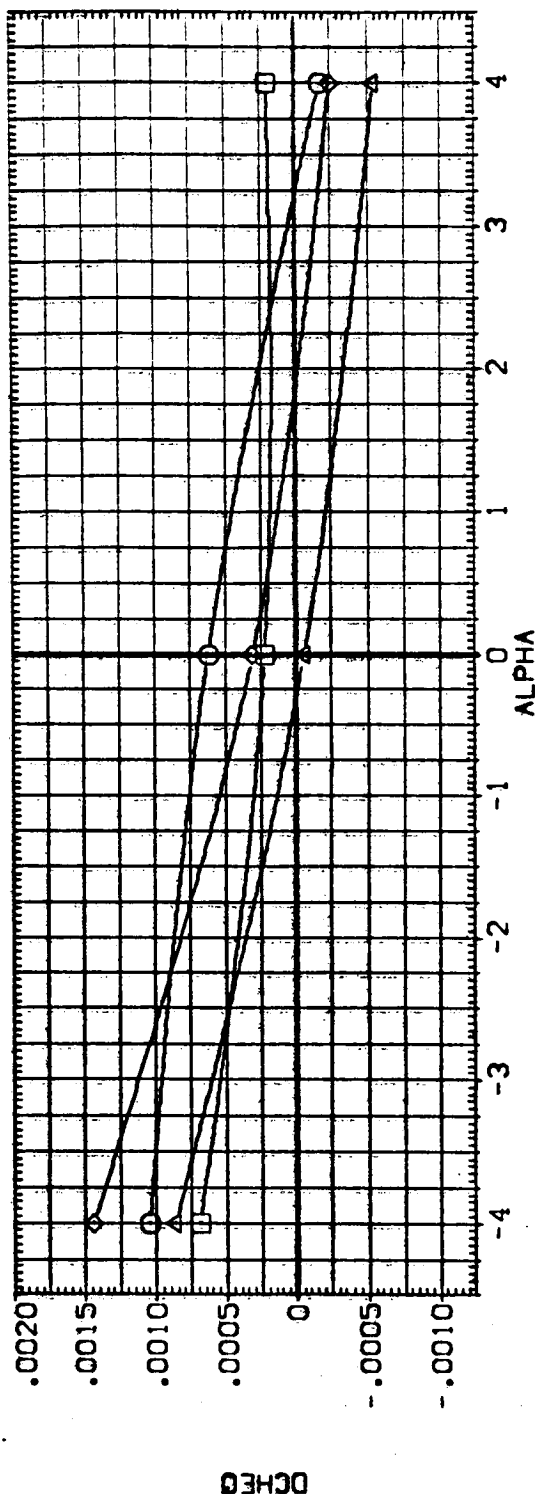
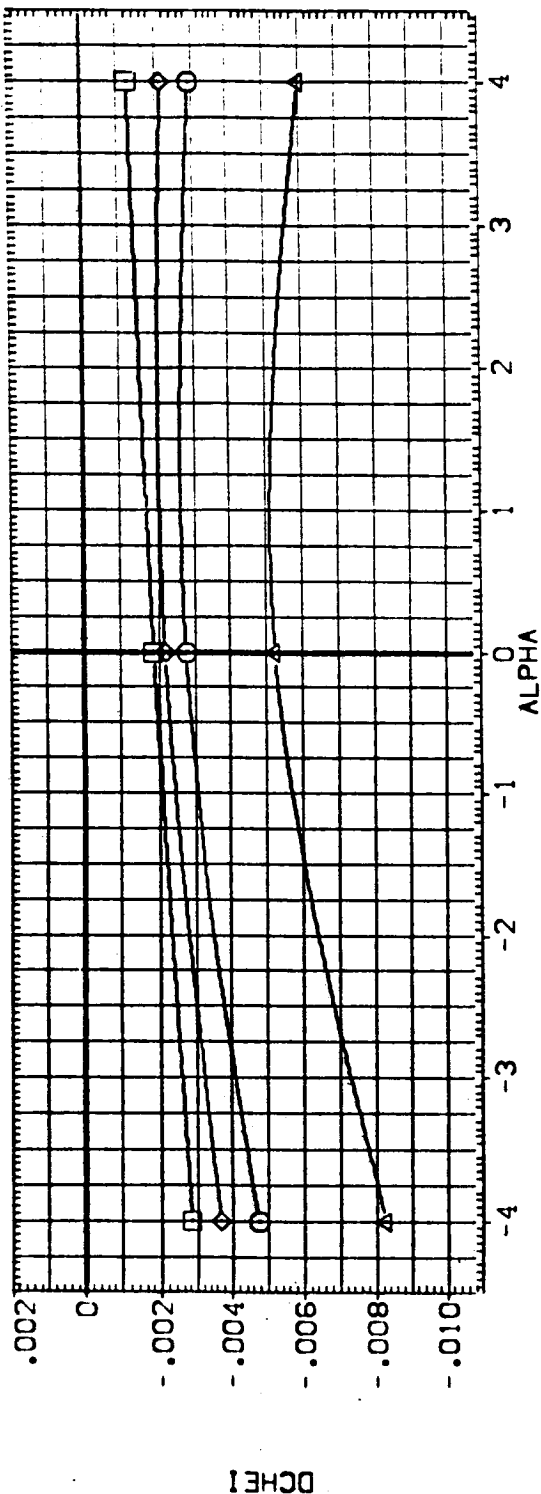


FIG. 25 INCREMENTAL EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-08=4.0 BETA=0.0

(A) BETA = .00



DATA SET SYMBOL		CONFIGURATION DESCRIPTION				ELV-IB		ELV-OB		MACH		GIMBAL		REFERENCE INFORMATION			
[FEJ005]	○	ARC	-0.41A	9	OTS-STRUT	S9B-NOM	8.000	4.000	1.000	2690.0000	IN.	50. FT.					
[FEJ009]	⊗	ARC	-0.41A	9	OTS-STRUT	S9B-LOV	8.000	4.000	1.000	1290.3000	IN.						
[FEJ013]		ARC	-0.41A	9	OTS-STRUT	S9B-DEF	8.000	4.000	1.000	1290.3000	IN.						
[FEJ017]		ARC	-0.41A	9	OTS-STRUT	S9B-HI	8.000	4.000	1.000	976.0000	IN.						
										YMRP	400.0000	IN.					
										ZMRP	400.0000	IN.					
										SCALE	.0200						

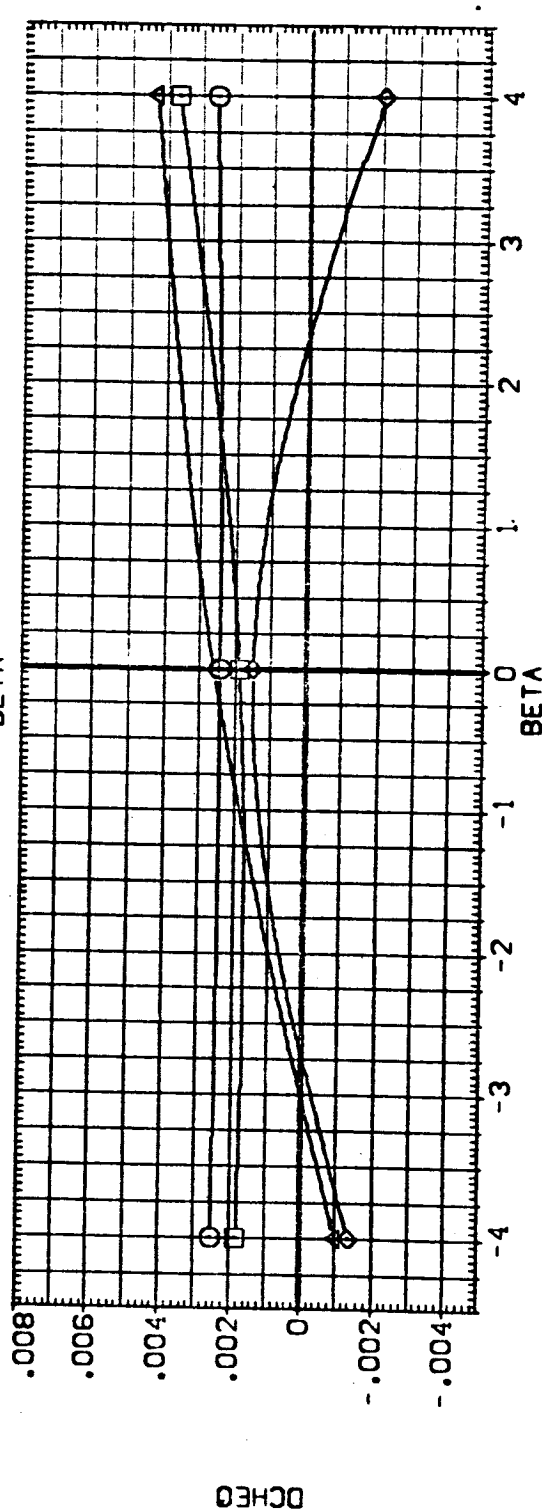
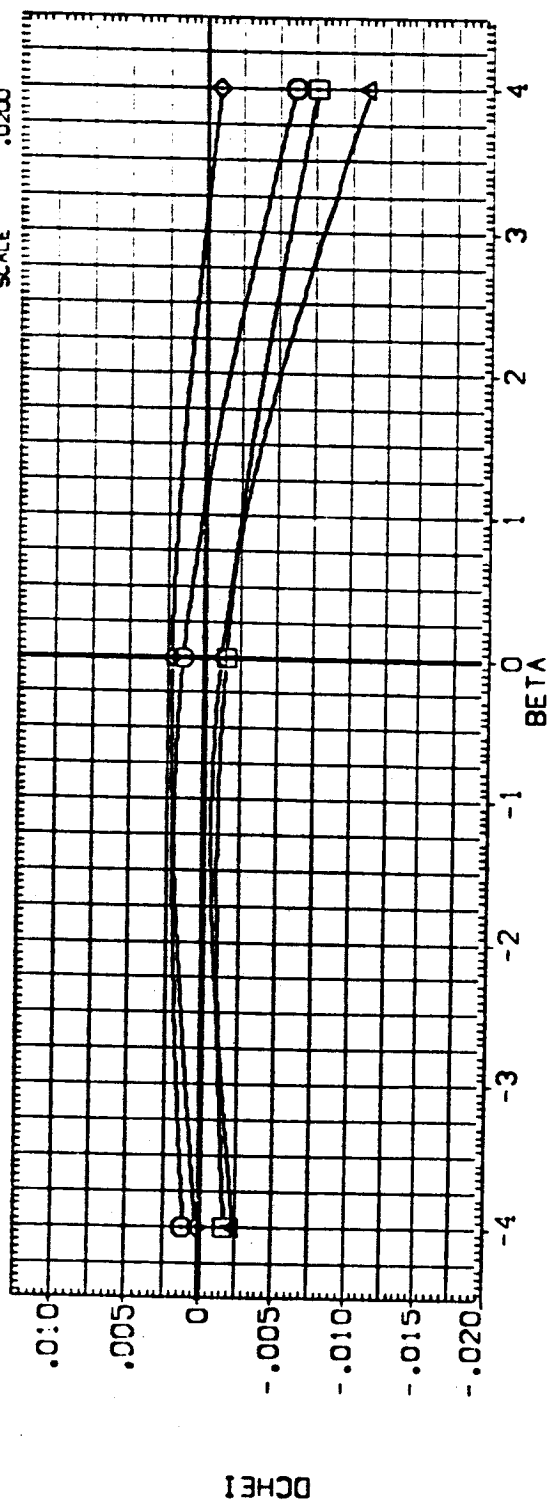


FIG. 26 INCREMENTAL EFFECT OF PLUMES - MACH=0.9 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.
 (A) ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(SEJ006) O ARC11-0:41A19 OTS+STRUT S28-NOM PPS-NOM
 (SEJ007) O ARC11-0:41A19 OTS+STRUT S28-LDV PPS-NOM
 (SEJ008) O ARC11-0:41A19 OTS+STRUT S28-NOM PPS-OF
 (SEJ009) O ARC11-0:41A19 OTS+STRUT S28-NOM PPS-HI

ELV-IB ELV-OB MACH

8.000 4.000 1.000
 8.000 4.000 1.000
 8.000 4.000 1.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP 400.0000 IN.
 ZMRP 400.0000 IN.
 SCALE .0200

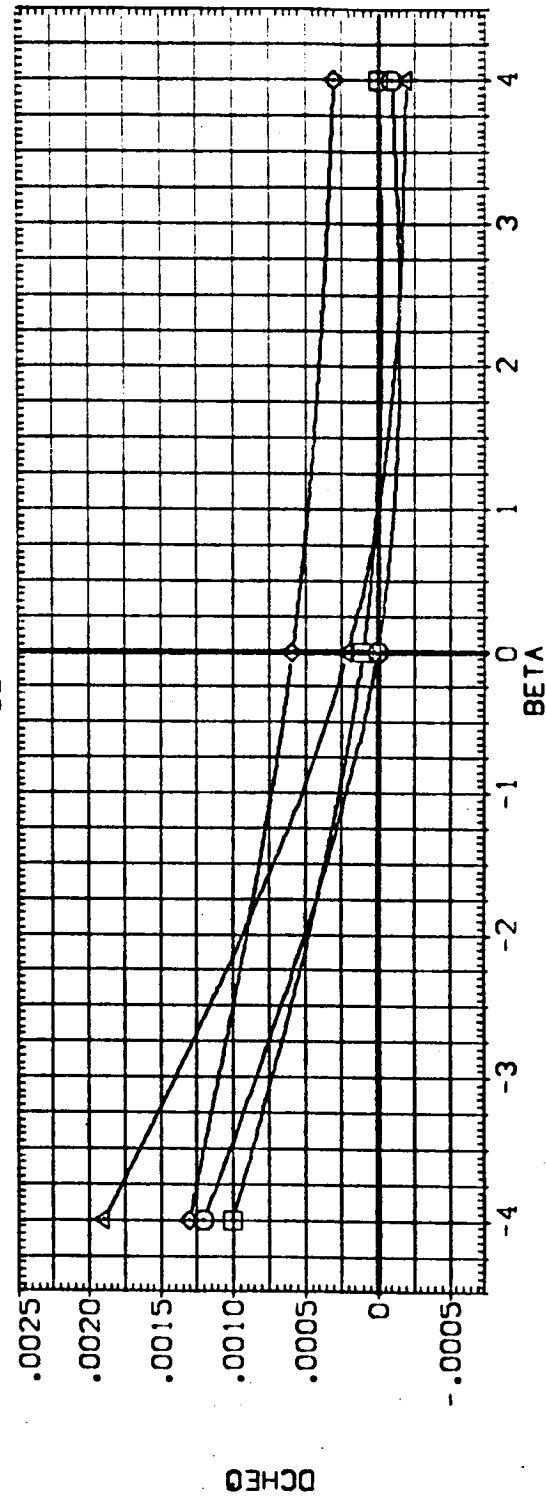
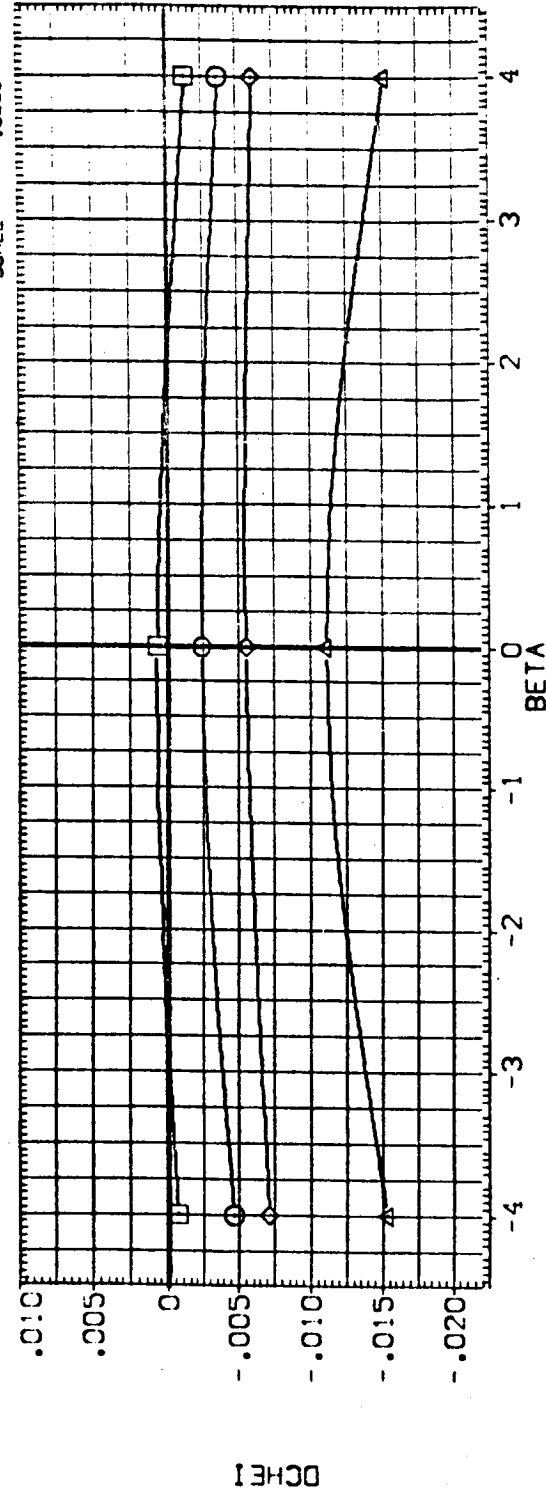


FIG. 27 INCREMENTAL EFFECT OF PLUMES - MACH=1.1 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.

CALPHA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-18	ELV-09	MACH	GIMBAL	REFERENCE INFORMATION
[FEU007]	ARC11-01A1A19 OTS-STRUT S98-N04 MPS-N04	8.000	4.000	1.250	1.000	SREF 2690.0000 SQ.FT.
[FEU008]	ARC11-01A1A19 OTS-STRUT S98-L04 MPS-N04	8.000	4.000	1.250	1.000	LREF 1290.3000 IN.
[FEU009]	ARC11-01A1A19 OTS-STRUT S98-N04 MPS-OFF	8.000	4.000	1.250	1.000	BREF 1290.3000 IN.
[FEU010]	ARC11-01A1A19 OTS-STRUT S98-H1 MPS-H1	8.000	4.000	1.250	1.000	YMRP 976.0000 IN.
						ZMRP 400.0000 IN.
						SCALE .0200

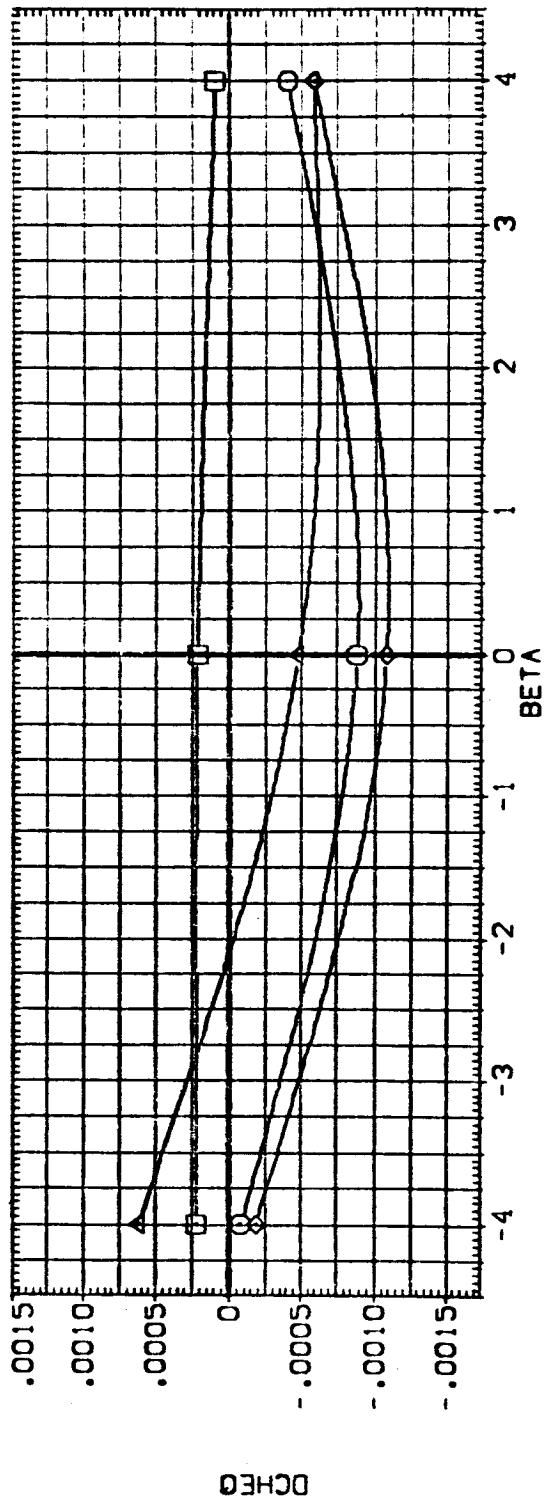
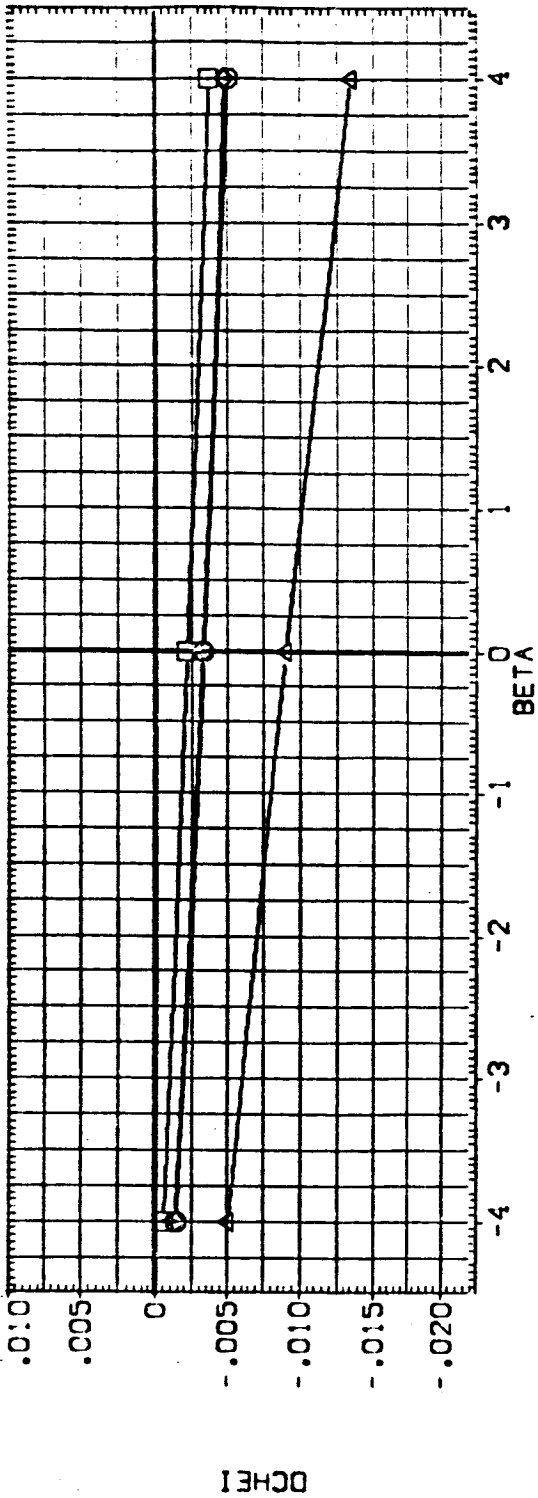


FIG. 28 INCREMENTAL EFFECT OF PLUMES - MACH=1.25 ELV-18=8.0 ELV-09=4.0 ALPHA=0.
 (A) ALPHA = .00 PAGE 79

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	GIMBAL	REFERENCE INFORMATION	SO.FT.
(FEL008)	ARC11-0141A19 OTS-STRUT SRS-NON MPS-NON	8.000	4.000	1.400	1.000	SREF 2690.0000	IN.
(FEL009)	ARC11-0141A19 OTS-STRUT SRS-LOW MPS-NON	8.000	4.000	1.400	1.000	LREF 1290.3000	IN.
(FEL010)	ARC11-0141A19 OTS-STRUT SRS-HI MPS-HI	8.000	4.000	1.400	1.000	BREF 1290.3000	IN.
(FEL011)	ARC11-0141A19 OTS-STRUT SRS-HI MPS-HI	8.000	4.000	1.400	1.000	XMRP 976.0000	IN.
(FEL012)	ARC11-0141A19 OTS-STRUT SRS-HI MPS-HI	8.000	4.000	1.400	1.000	ZMRP 400.0000	IN.
(FEL013)	ARC11-0141A19 OTS-STRUT SRS-HI MPS-HI	8.000	4.000	1.400	1.000	SCALE .0200	IN.

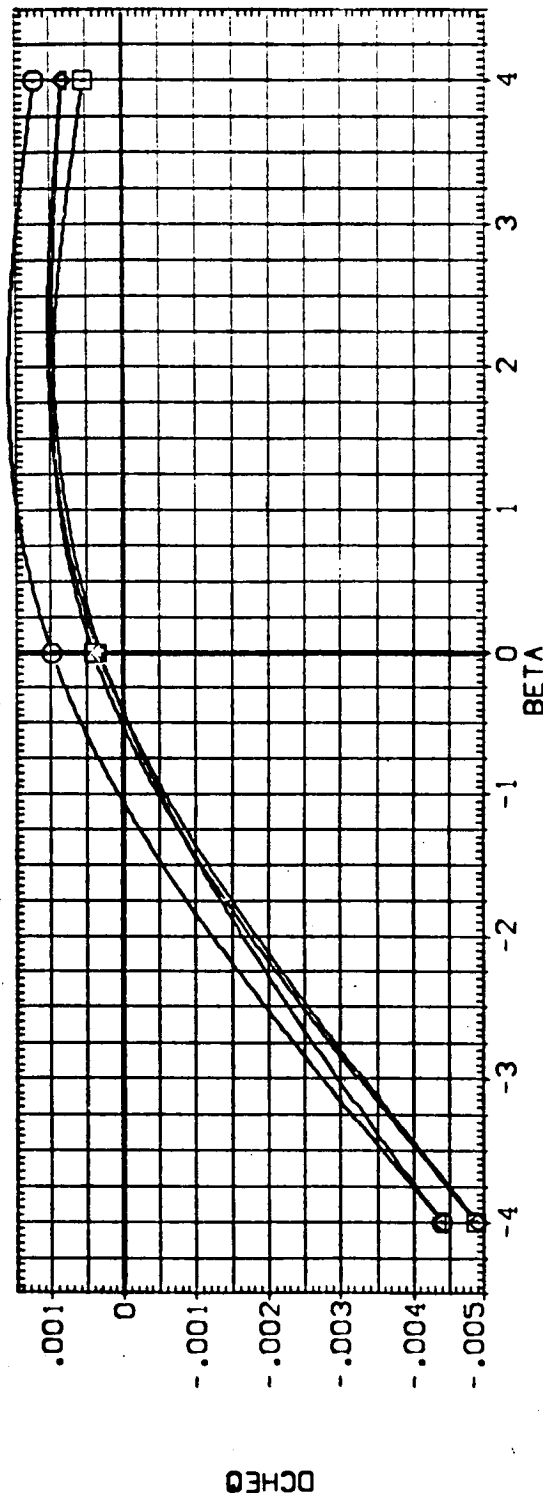
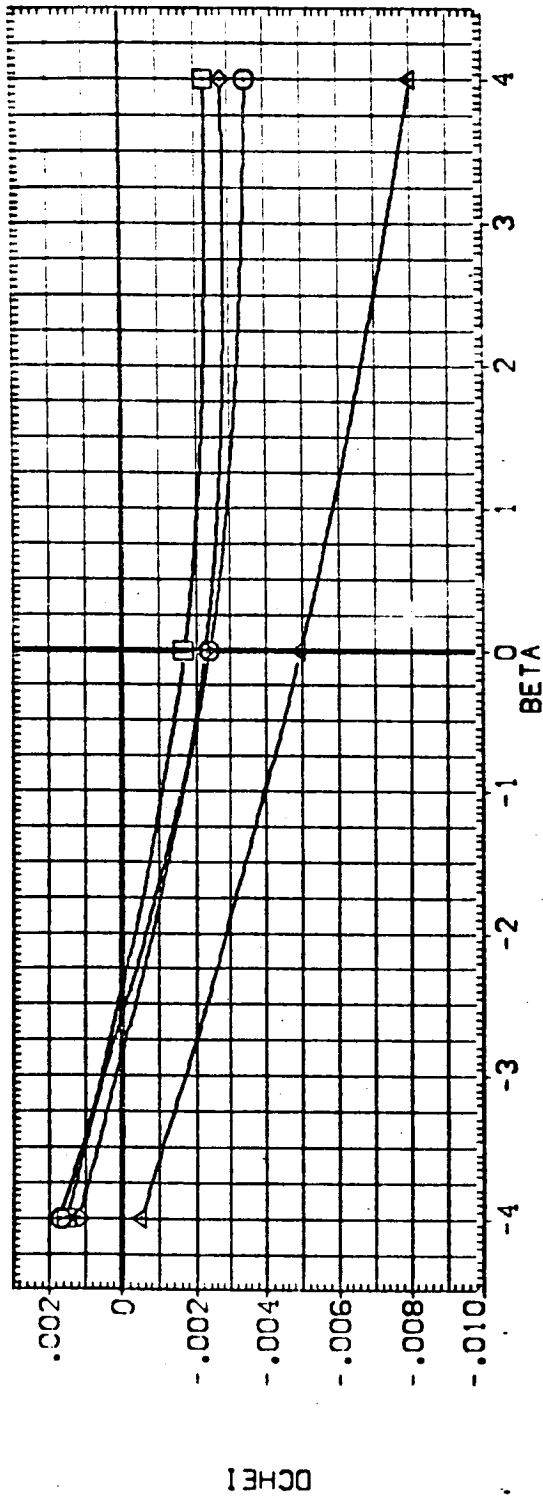


FIG. 29 INCREMENTAL EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.

(A) ALPHA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (EUC22) ○ ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

ELV-1B 8.000 ELV-0B .000 MACH 1.400 G1H-BAL 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

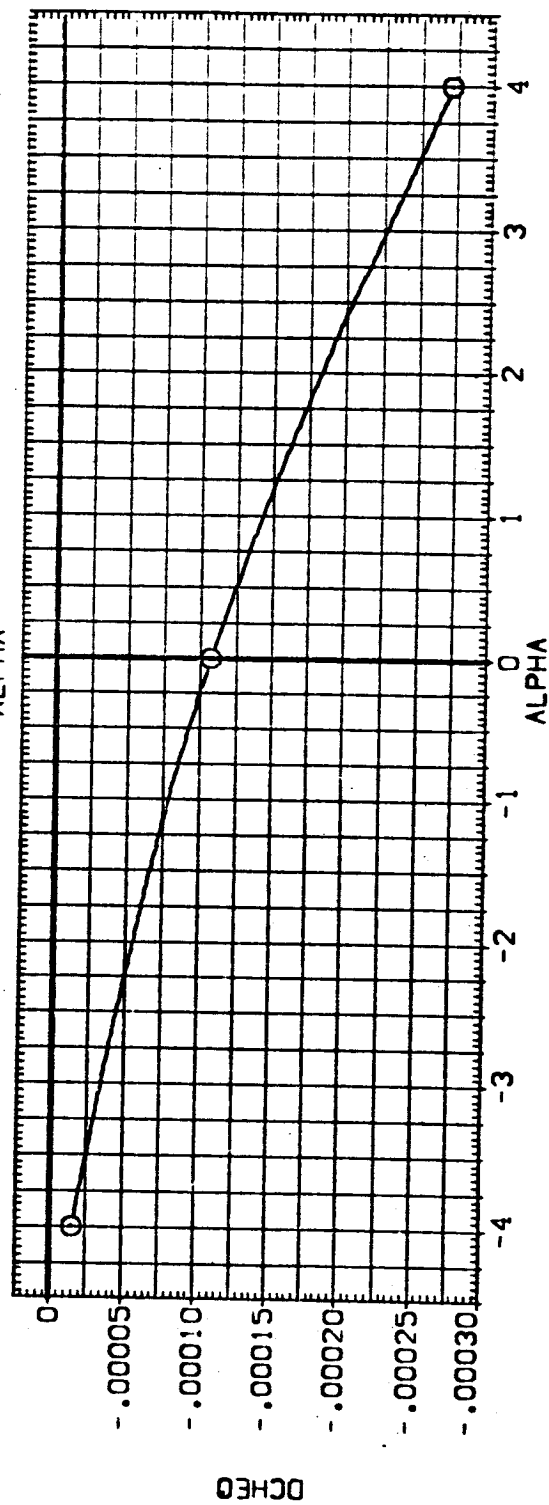
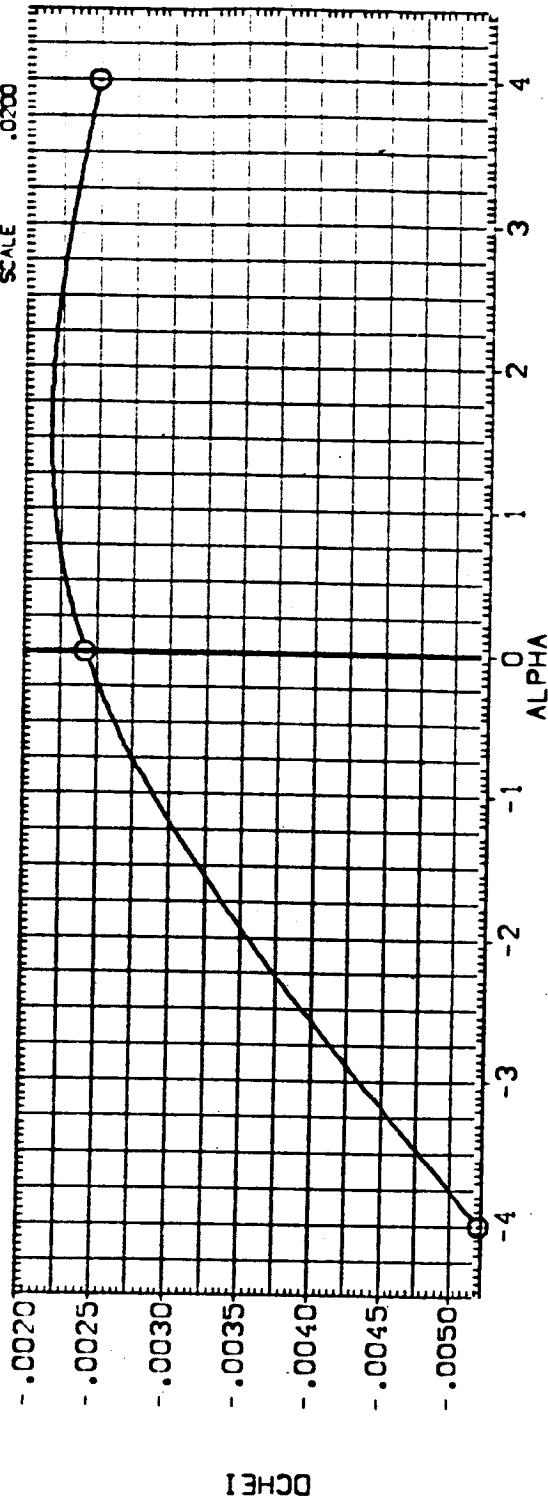


FIG. 30 INCREMENTAL EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=0.0 BETA=0.0
 (A) BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (FEUC22) ○ ARC11-0141A19 OTS-STRUT SRB-NOM MPS-NOM

ELV-IB ELV-OB MACH GIMBAL

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP 400.0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

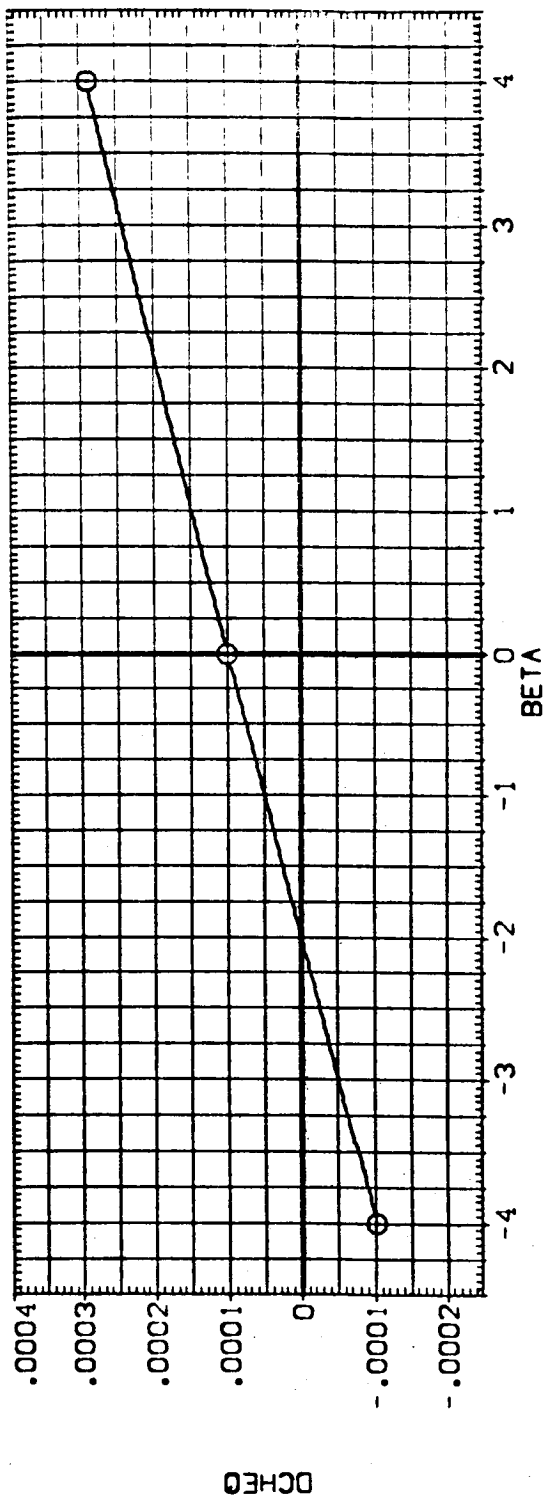
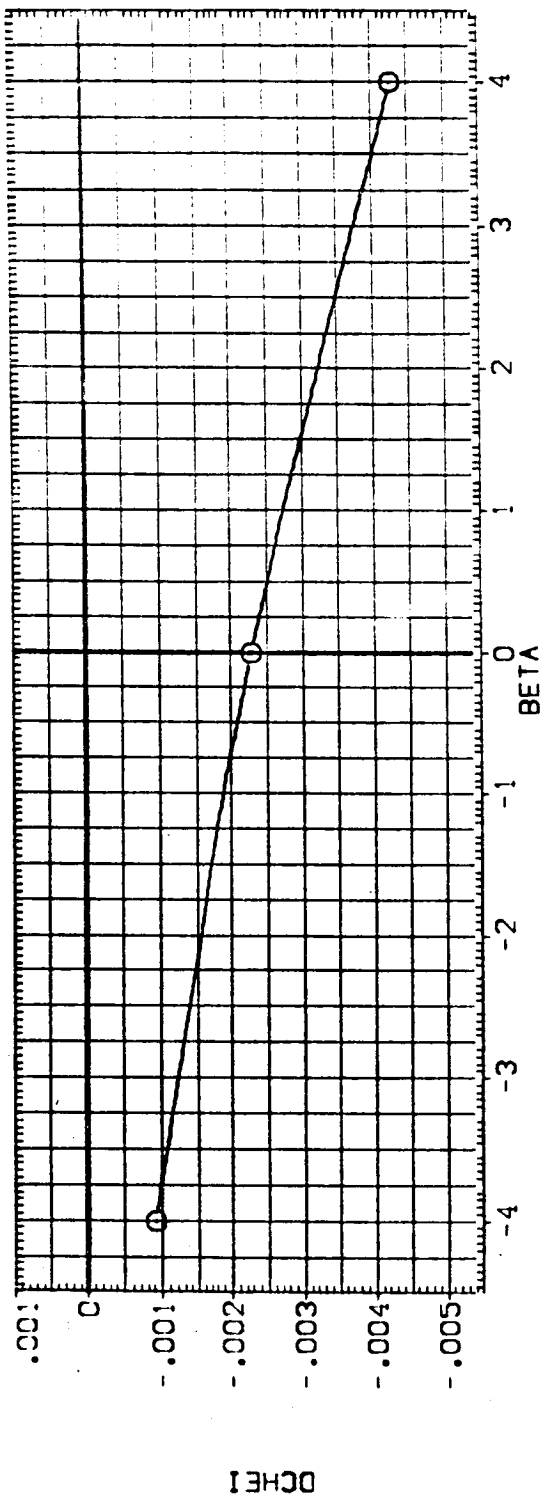


FIG. 31 INCREMENTAL EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=0.0 ALPHA=0.

(A) ALPHA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	GIMBAL	REFERENCE INFORMATION
(EUC27)	ARC11-0141A19 OTS-STRUT SRB-NOM MPS-NOM	.000	.000	.900	1.000	SREF 2690.0000 SQ.FT.
(EUC35)	ARC11-0141A19 OTS-STRUT SRB-NOM MPS-NOM	.000	.000	.900	2.000	LREF 1290.3000 IN.
						BREF 1290.3000 IN.
						XMRP 976.0000 IN.
						YMRP .0000 IN.
						ZMRP 400.0000 IN.
						SCALE .0200

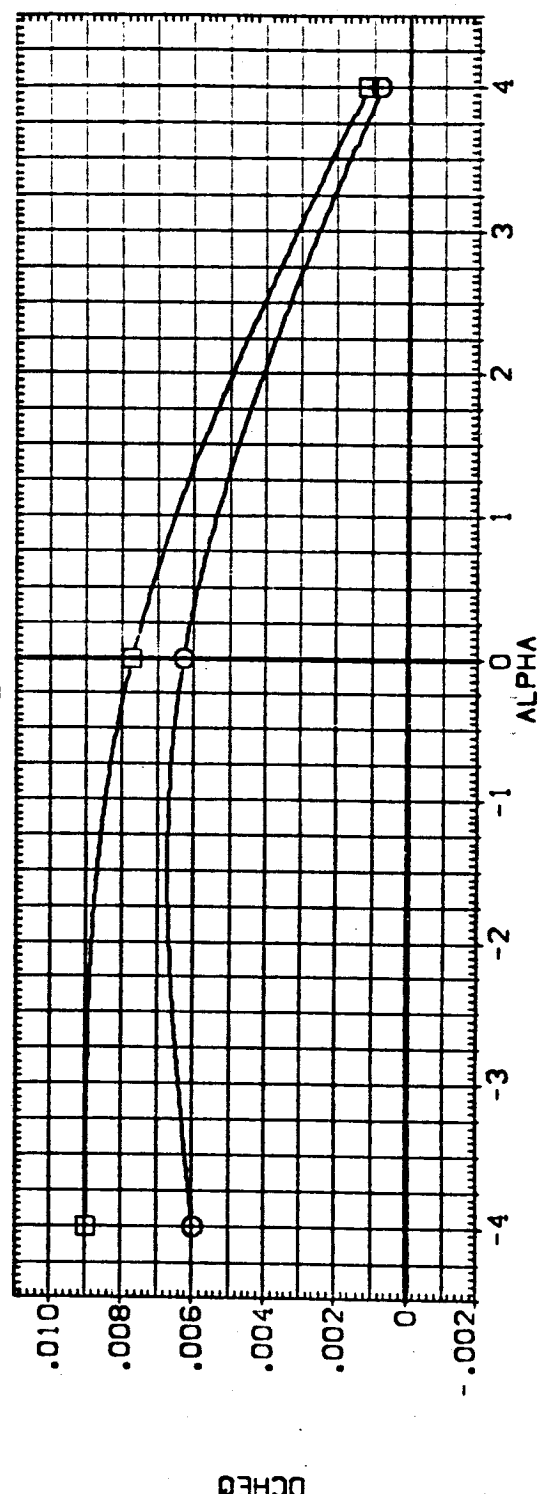
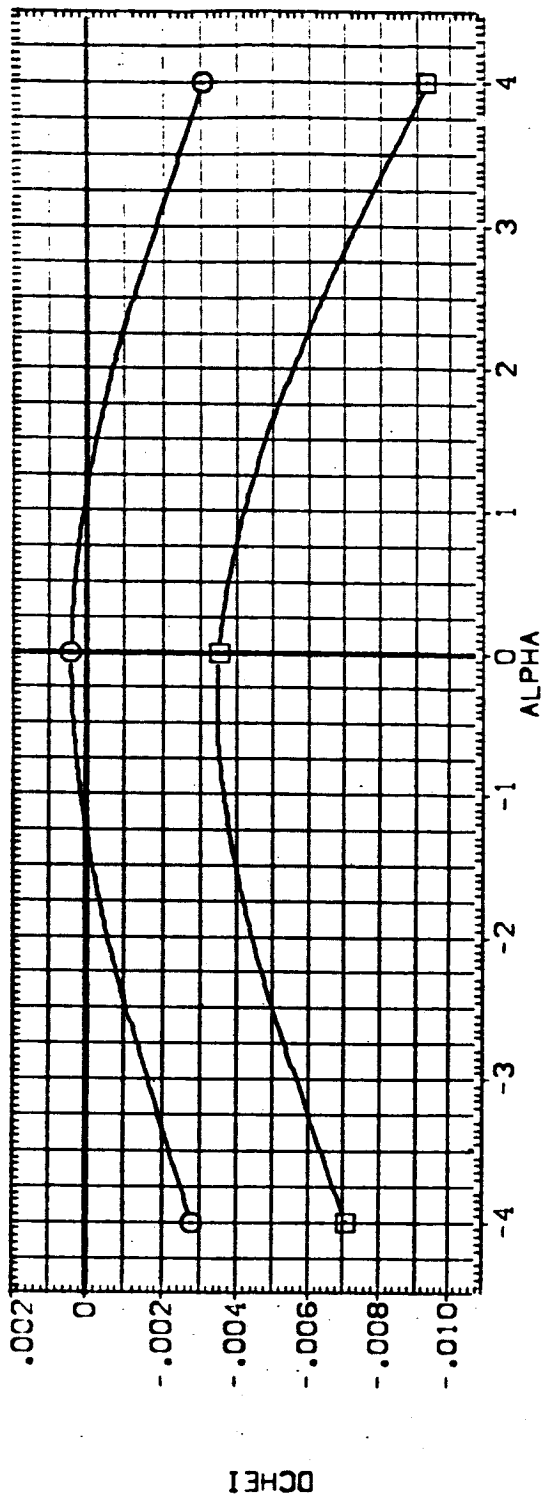


FIG. 32 INCREMENTAL EFFECT OF PLUMES - MACH=0.9 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0
 (A) BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION ELV-IB ELV-OB MACH GIMBAL REFERENCE INFORMATION

[[[UC28]]]	ARC11-0141A19 OTS-STRUT S98-NOM MPS-NOM	.000	.000	1.100	1.000	SREF 2690.0000 SQ.FT.
[[[UC36]]]	ARC11-0141A19 OTS-STRUT S98-NOM MPS-NOM	.000	.000	1.100	2.000	LREF 1290.3000 IN.
						BREF 1290.3000 IN.
						XMPR 976.0000 IN. XT
						YMPR .0000 IN. YT
						ZMPR 400.0000 IN. ZT
						SCALE .0200

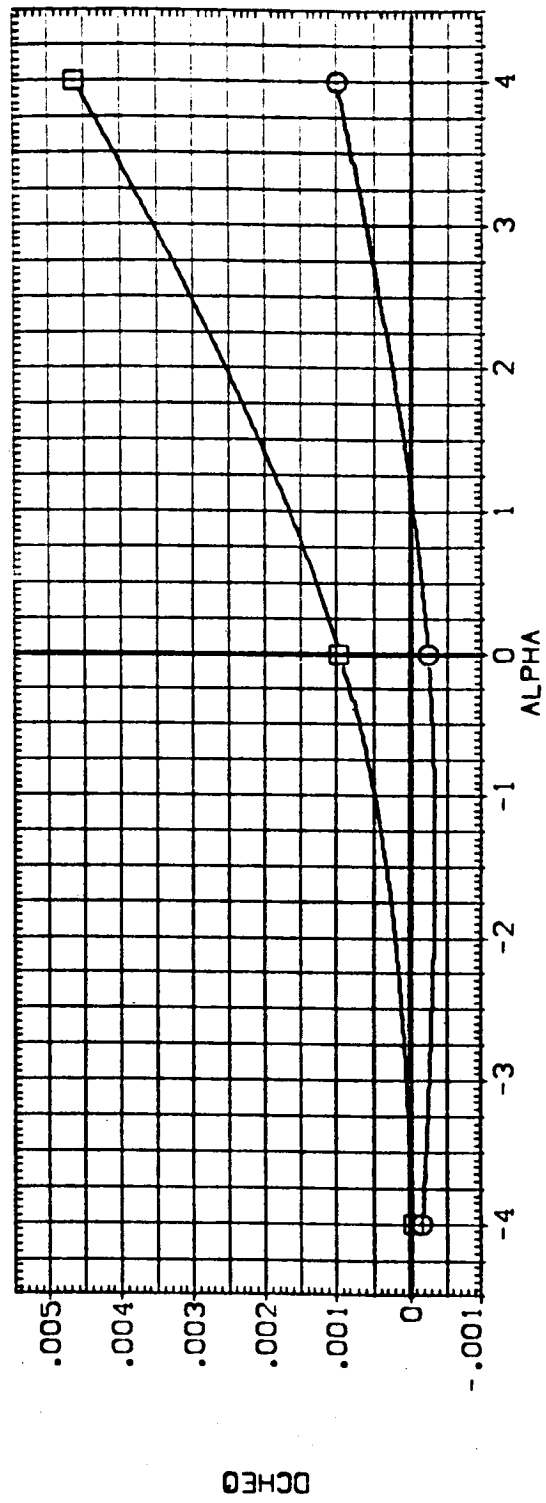
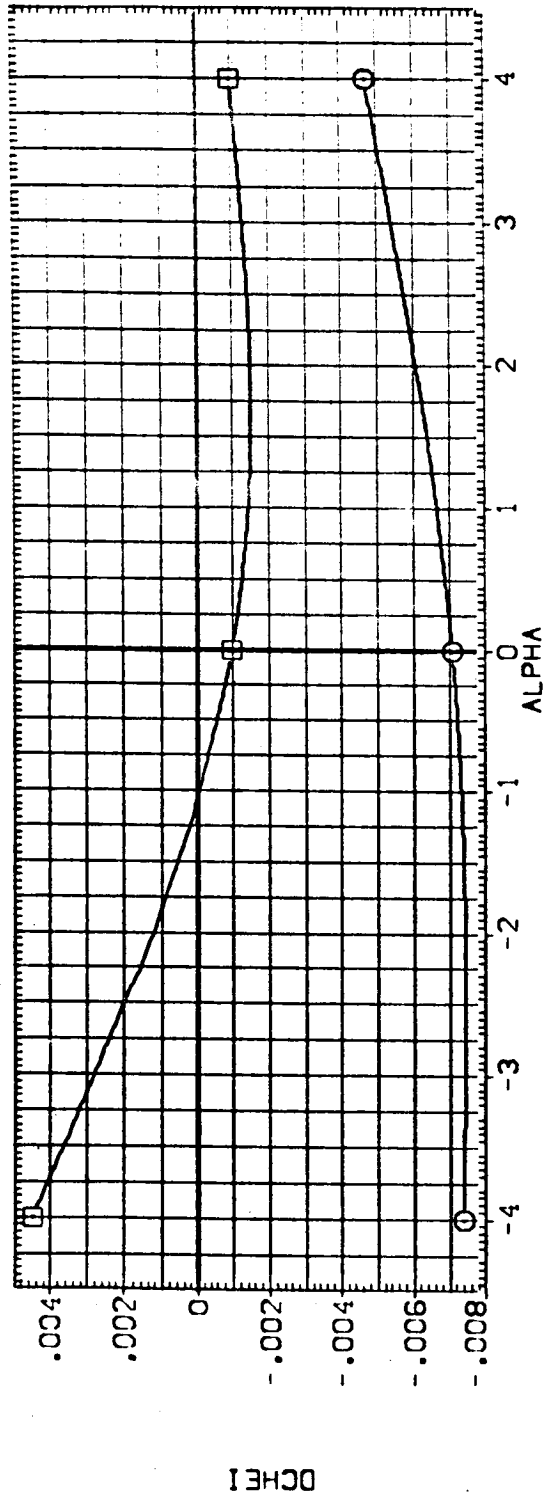


FIG. 33 INCREMENTAL EFFECT OF PLUMES - MACH=1.1 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0
 (A) BETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GIMBAL	SREF	2690.0000	50.FT.
ARC11-0141A19	OTS-STRUT S98-NOM MPS-NOM	.000	.000	1.250	1.000	LREF	1290.3000	IN.
ARC11-0141A19	OTS-STRUT S28-NOM MPS-NOM	.000	.000	1.250	2.000	BREF	1290.3000	IN.
						XMRP	976.0000	IN.
						YMRP	.0000	IN.
						ZMRP	400.0000	IN.
						SCALE	.0200	

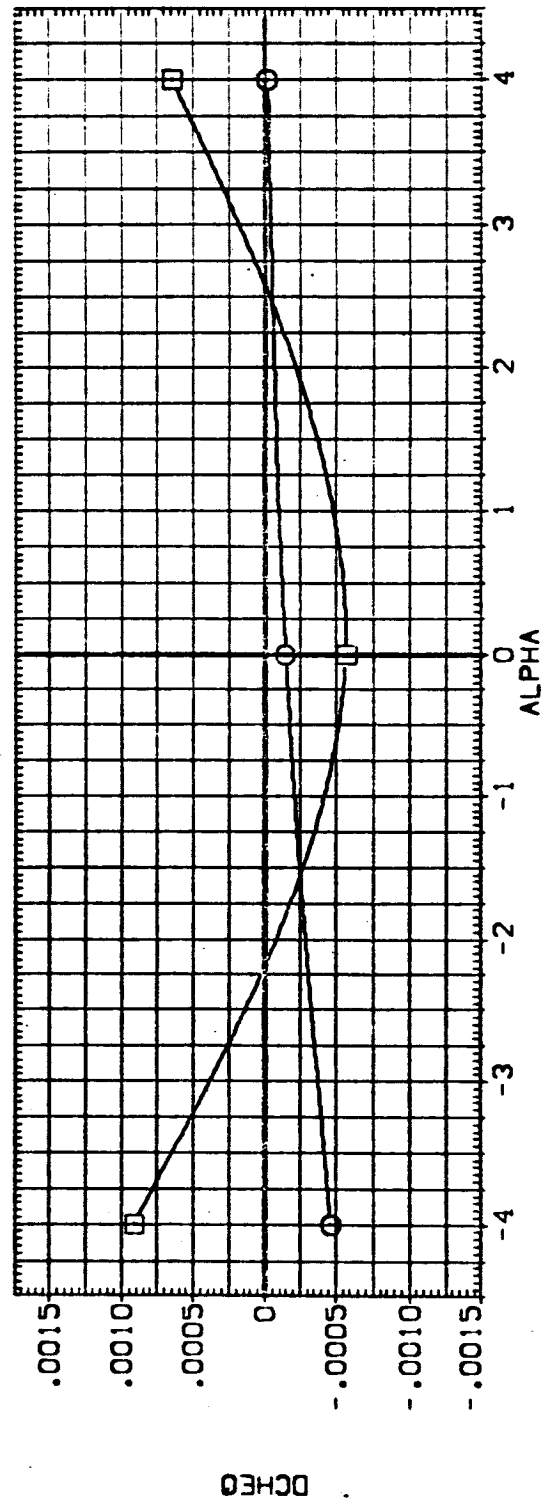
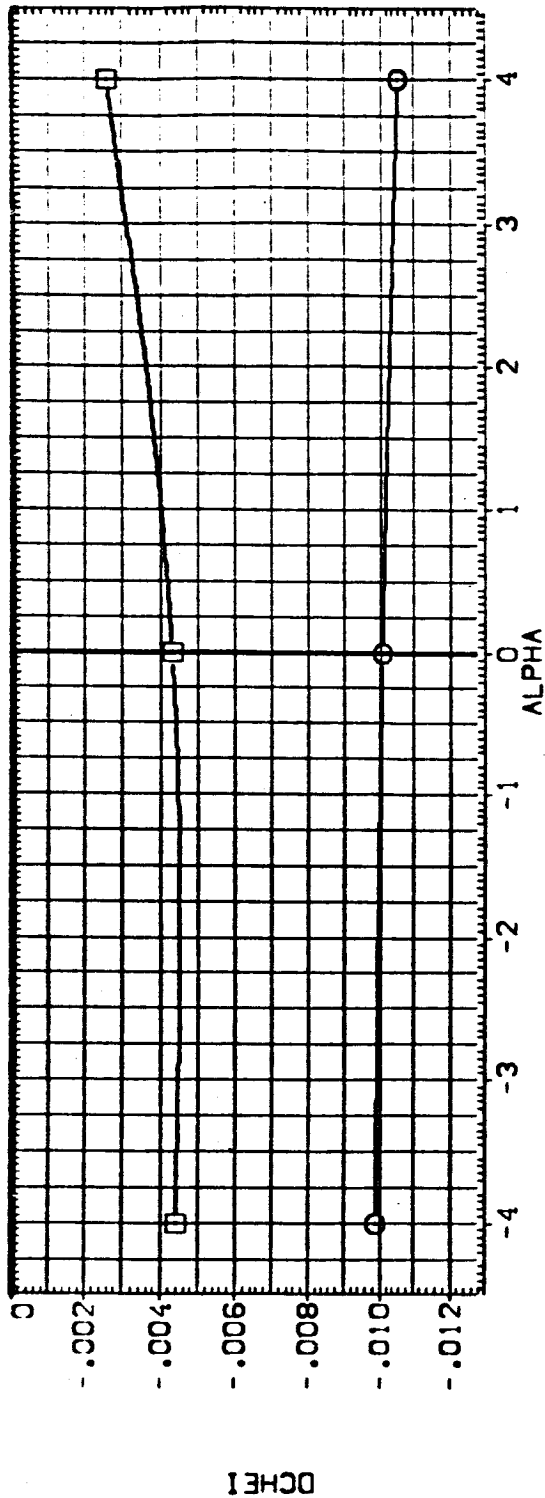


FIG. 34 INCREMENTAL EFFECT OF PLUMES - MACH=1.25 ELV-1B=0.0 ELV-0B=0.0 BETA=0.0

CAI BETA = 00

PAGE

OF

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(EEUC30) ○ ARC11-0141A19 OTS+STRUT SPR-NON WPS-NON

(EEUC38) □ ARC11-0141A19 OTS+STRUT SPR-NON WPS-NON

ELV-IB ELV-OB MACH

.000 .000 1.400

.000 .000 1.400

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.

LREF 1290.3000 IN.

BREF 1290.3000 IN.

AMRP 976.0000 IN. XT

YMPP .0000 IN. YT

ZMPP .0000 IN. ZT

SCALE .0200

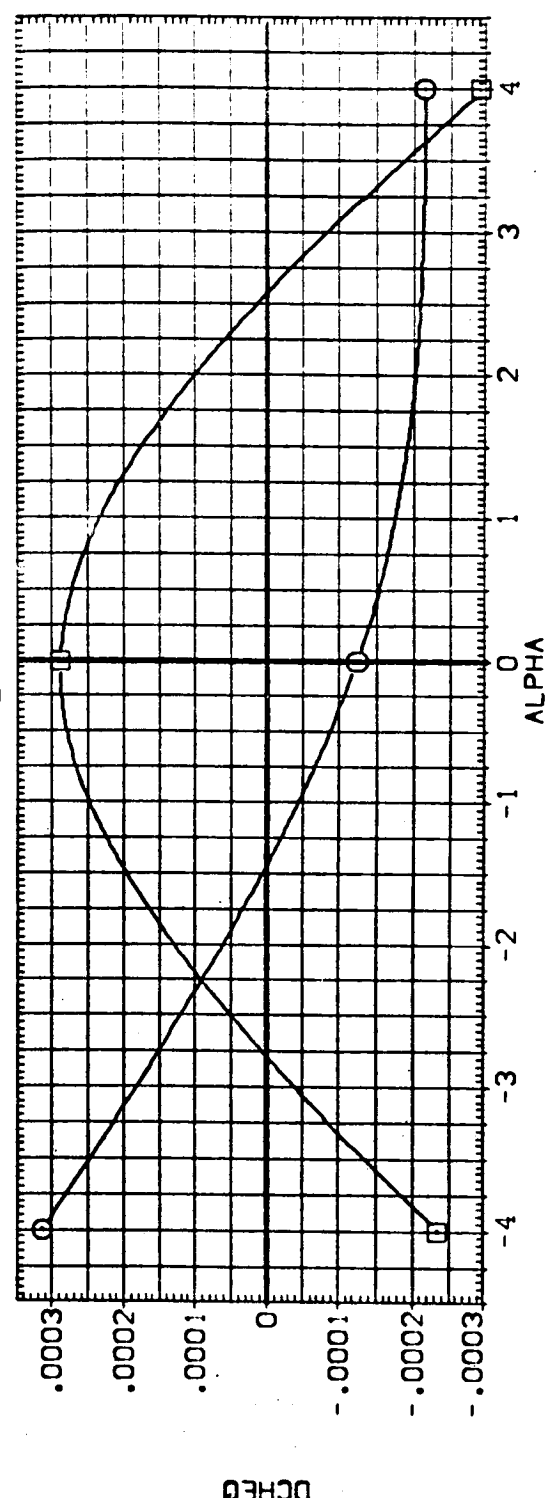
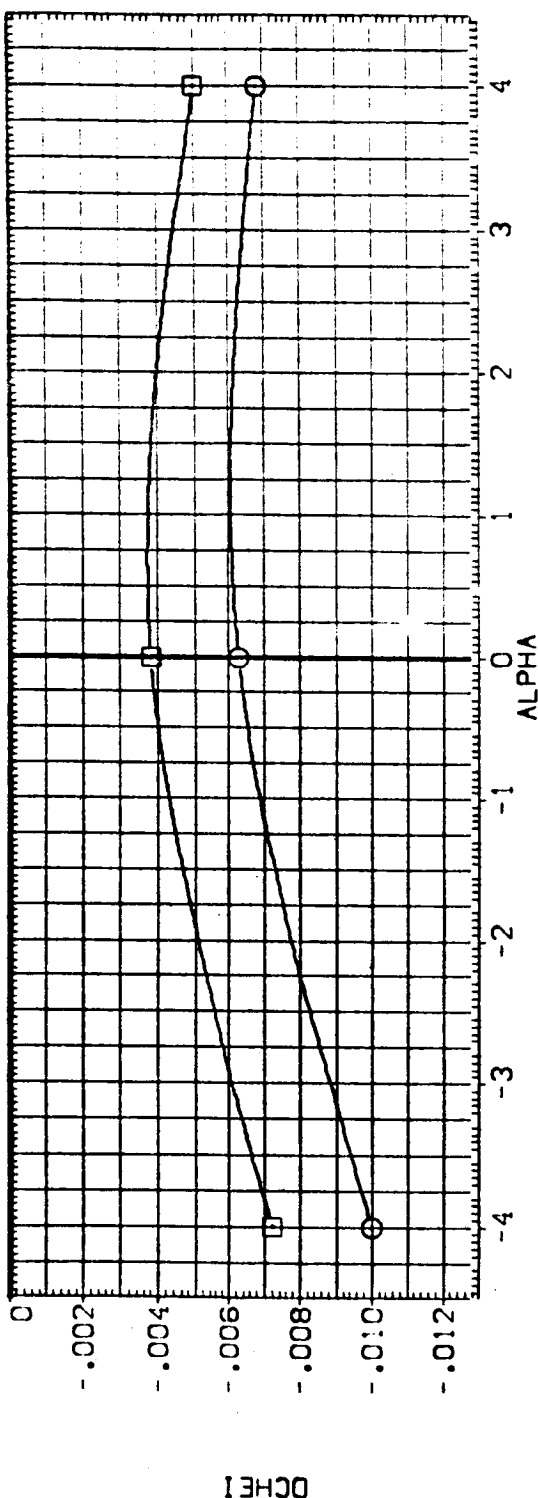


FIG. 35 INCREMENTAL EFFECT OF PLUMES - MACH=1.4 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0

CABETA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	GIMBAL	REFERENCE INFORMATION
[FEUC27]	ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM	.000	.000	.900	1.000	SREF 2690.0000 SQ.FT.
[FEUC35]	ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM	.000	.000	.900	2.000	LREF 1290.3000 IN.
						BREF 1290.3000 IN.
						XMRP 576.0000 IN.
						YMRP 0.0000 IN.
						ZMRP 400.0000 IN.
						SCALE .0200

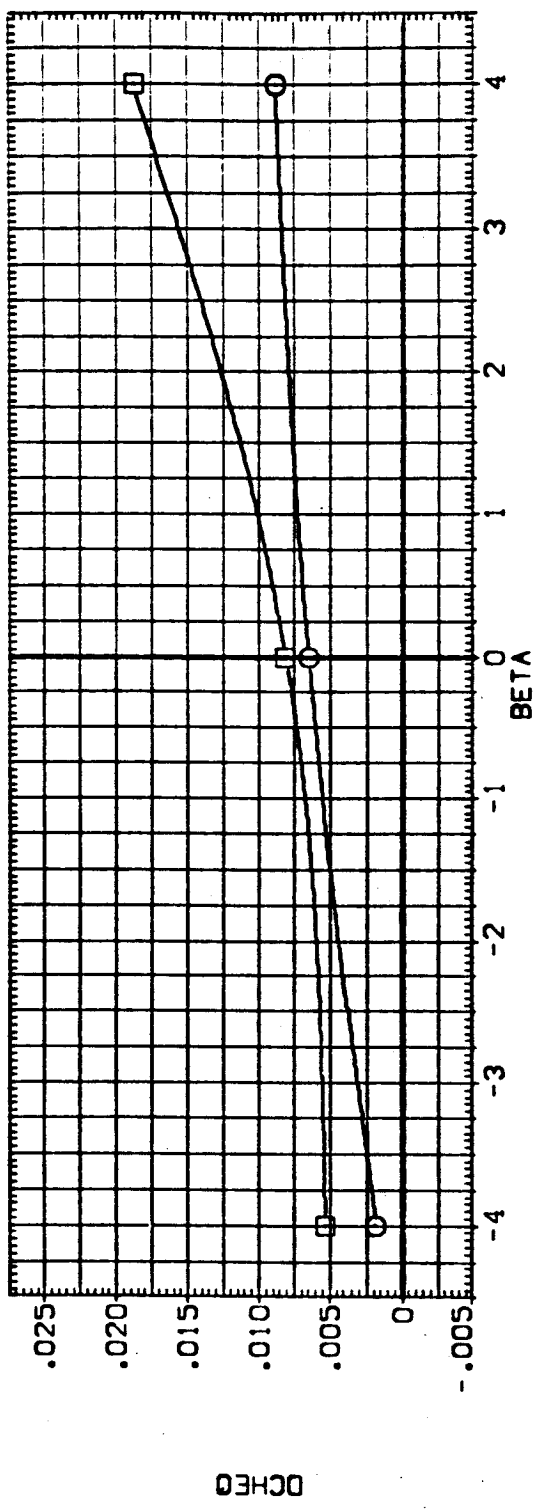
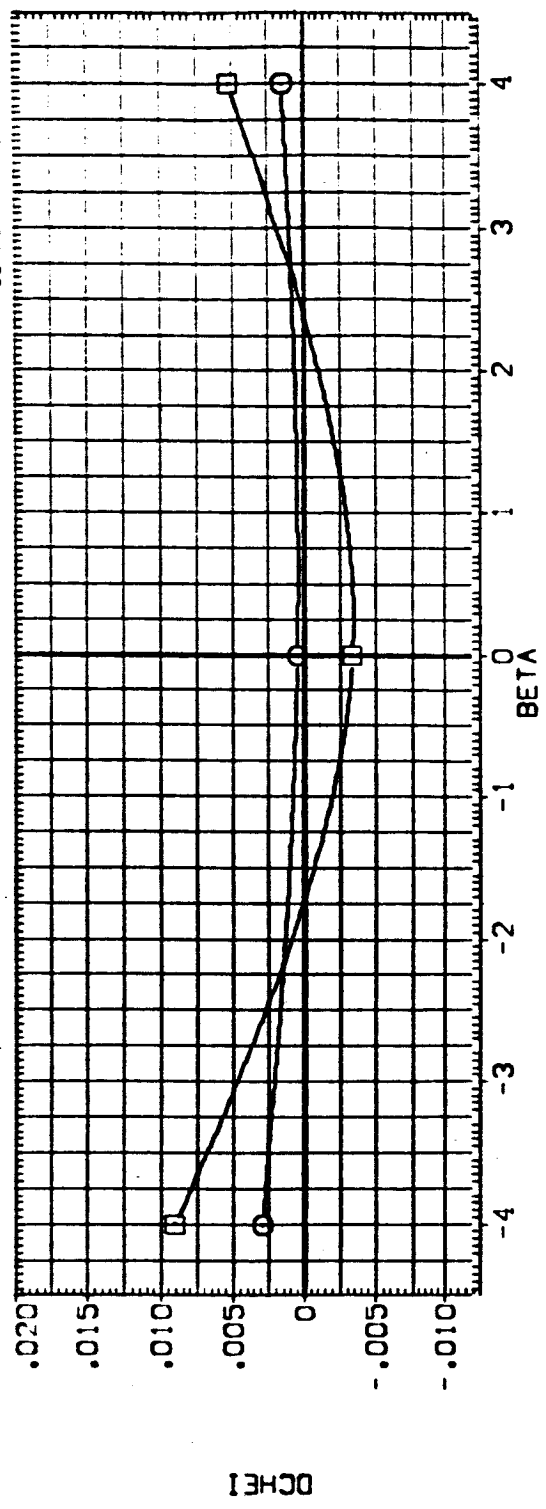


FIG. 36 INCREMENTAL EFFECT OF PLUMES - MACH=0.9 ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.0
 CAJALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[FEU028] ○ ARC11-0141A19 QTS-STRUT S88-NOM WPS-NOM

ELV-IB ELV-OB MACH GIMBAL REFERENCE INFORMATION

SREF 2690.0000 50.FT.
LREF 1290.3000 IN.
BREF 1290.3000 IN. XT
XMRP 976.0000 IN. YI
YMRP .0000 IN. ZI
ZMRP 400.0000 IN. ZT
SCALE .0200

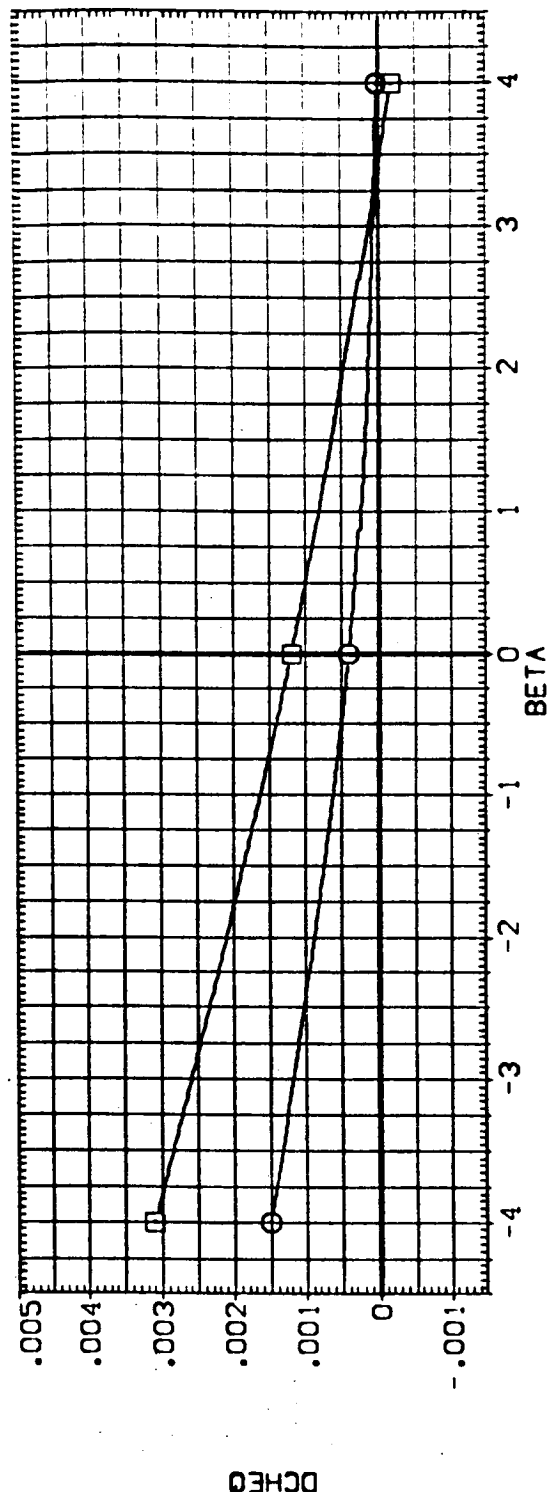
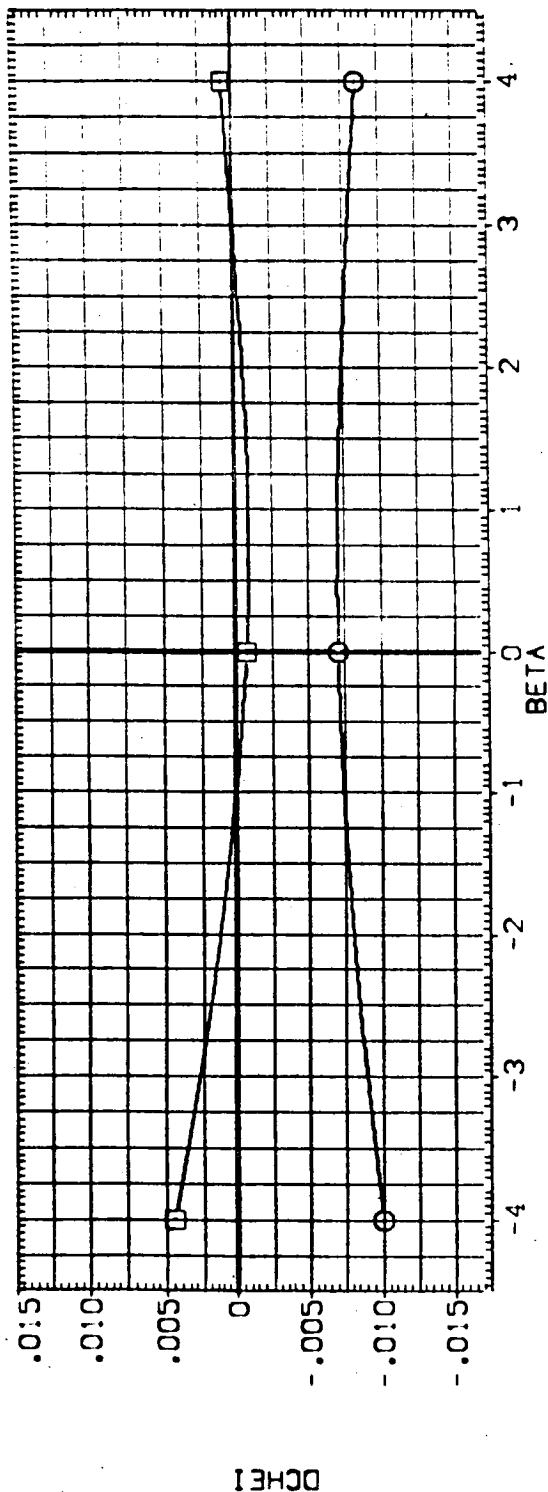


FIG. 37 INCREMENTAL EFFECT OF PLUMES - MACH=1.1 ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.

(A) ALPHA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-08	MACH	GIMBAL	REFERENCE INFORMATION
(FELC09)	ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM	.000	.000	1.250	1.000	SREF 2690.0000 50.0 FT.
(FELC37)	ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM	.000	.000	1.250	2.000	LREF 1290.3000 IN.
						BREF 1290.3000 IN.
						XMRP 976.0000 IN.
						YMRP .0000 IN.
						ZMRP .0000 IN.
						SCALE 400.0000
						.0000

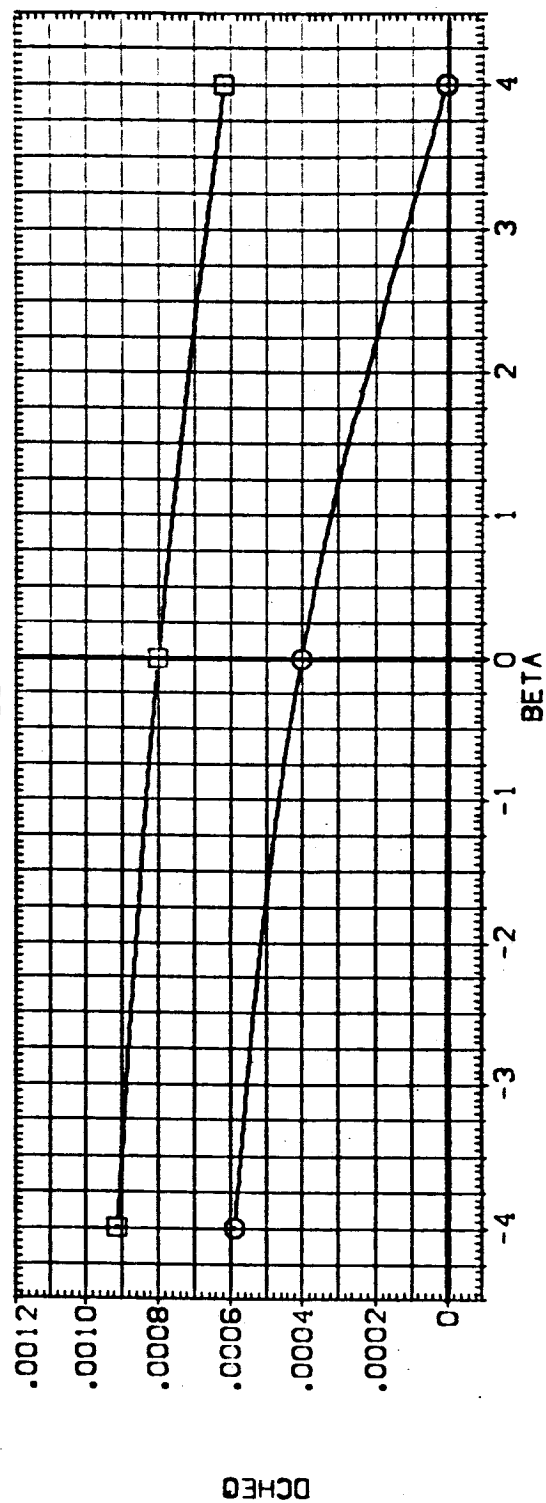
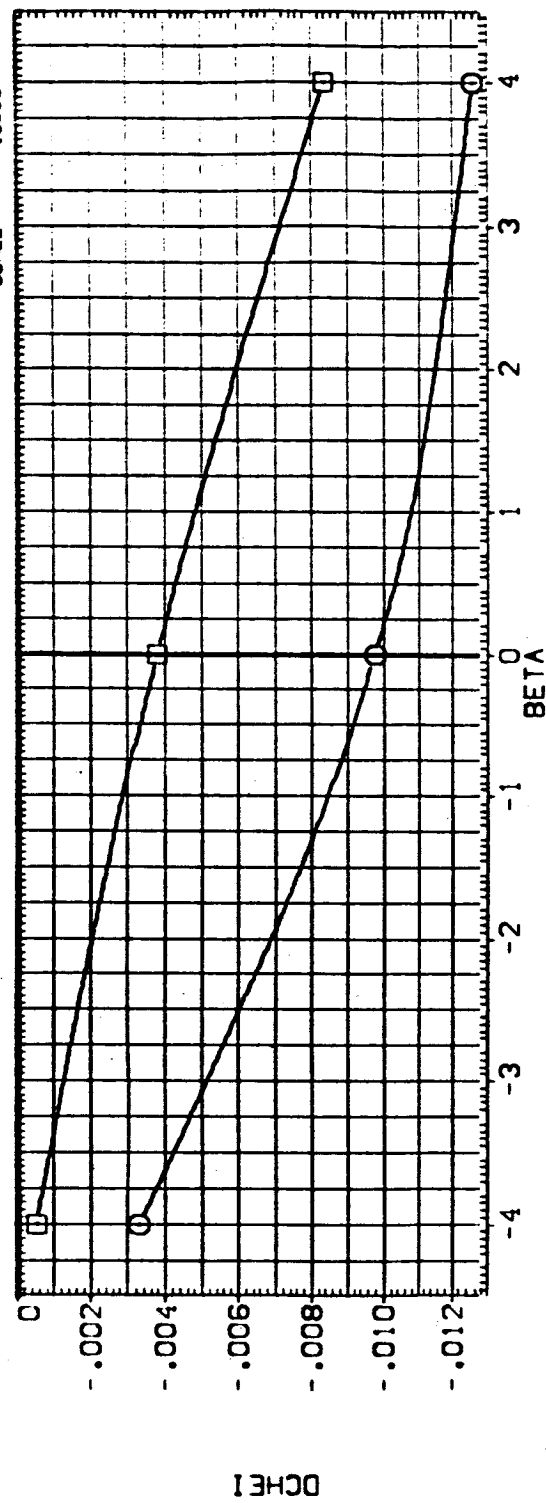


FIG. 38 INCREMENTAL EFFECT OF PLUMES - MACH=1.25 ELV-1B=0.0 ELV-08=0.0 ALPHA=0.0
 (A) ALPHA = .00

DATA SET SY-30. CONFIGURATION DESCRIPTION REFERENCE INFORMATION

ARC11-0141A19	OTS-STRUT	SRB-NOM	MPS-NOM	ELV-IB	ELV-OB	MACH	GIMBAL	SREF	2690.0000	50. FT.
ARC11-0141A19	OTS-STRUT	SRB-NOM	MPS-NOM	.000	.000	1.400	1.000	LREF	1290.3000	IN.
				.000	.000	1.400	2.000	BREF	1290.3000	IN.
								YMRP	975.0000	IN.
								ZMRP	400.0000	IN.
								SCALE	.0200	IN.

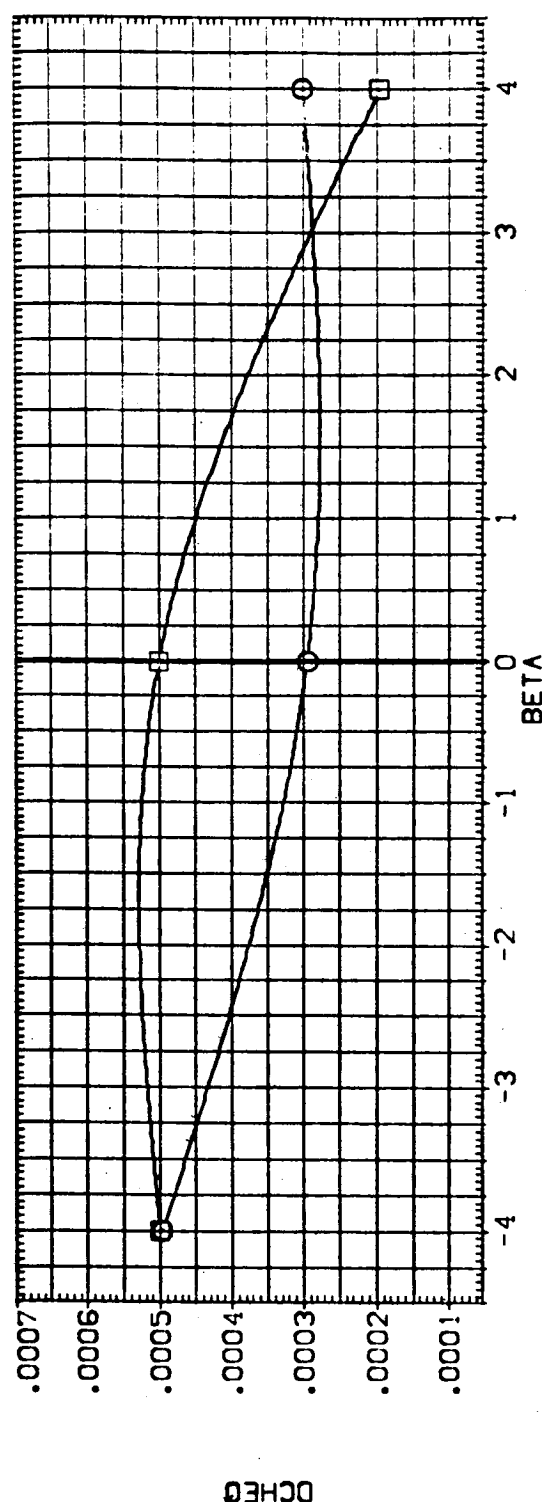
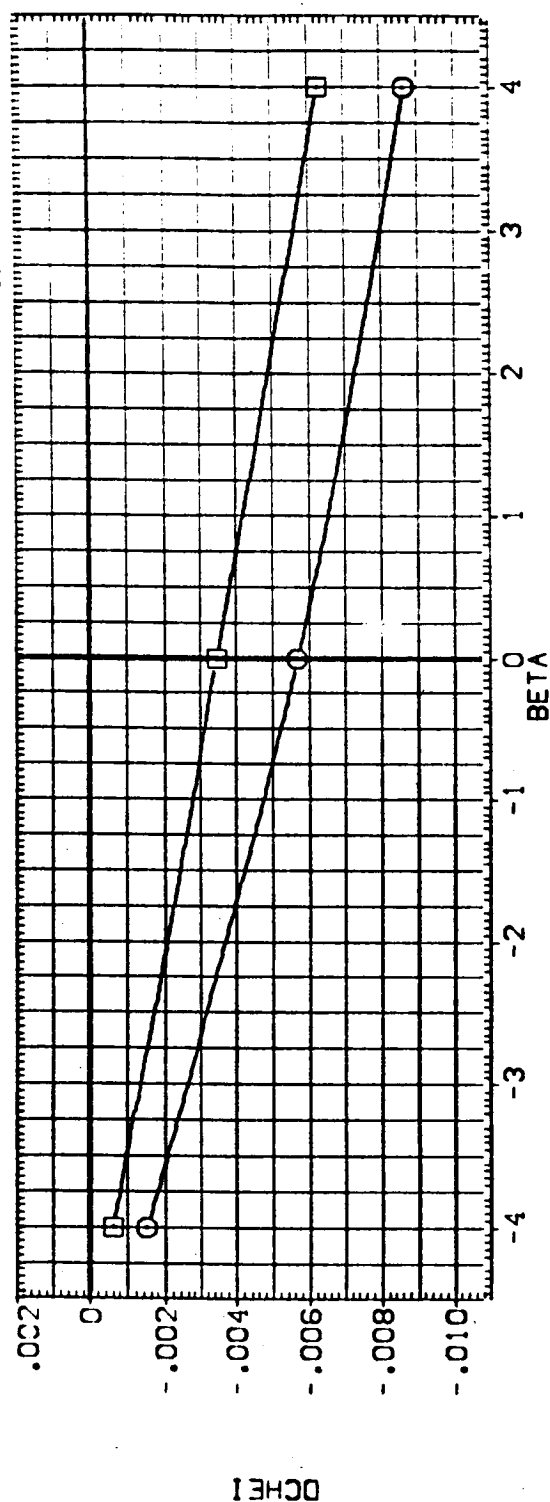


FIG. 39 INCREMENTAL EFFECT OF PLUMES - MACH=1.4 ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.
(A) ALPHA = .00

DATA SET SYMBOL: \bigcirc ARC11-0141A19 QTS
 CONFIGURATION DESCRIPTION: SPR-OFF MPS-OFF
 SPR-NOM MPS-OFF

ELV-1B: .000
 ELV-08: .000
 MACH: .900
 GIMBAL: 1.000

REFERENCE INFORMATION:
 SREF: 2690.0000 SO.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN.
 XMRP: 976.0000 IN. XT
 YMRP: 400.0000 IN. YT
 ZMRP: 400.0000 IN. ZT
 SCALE: .0200

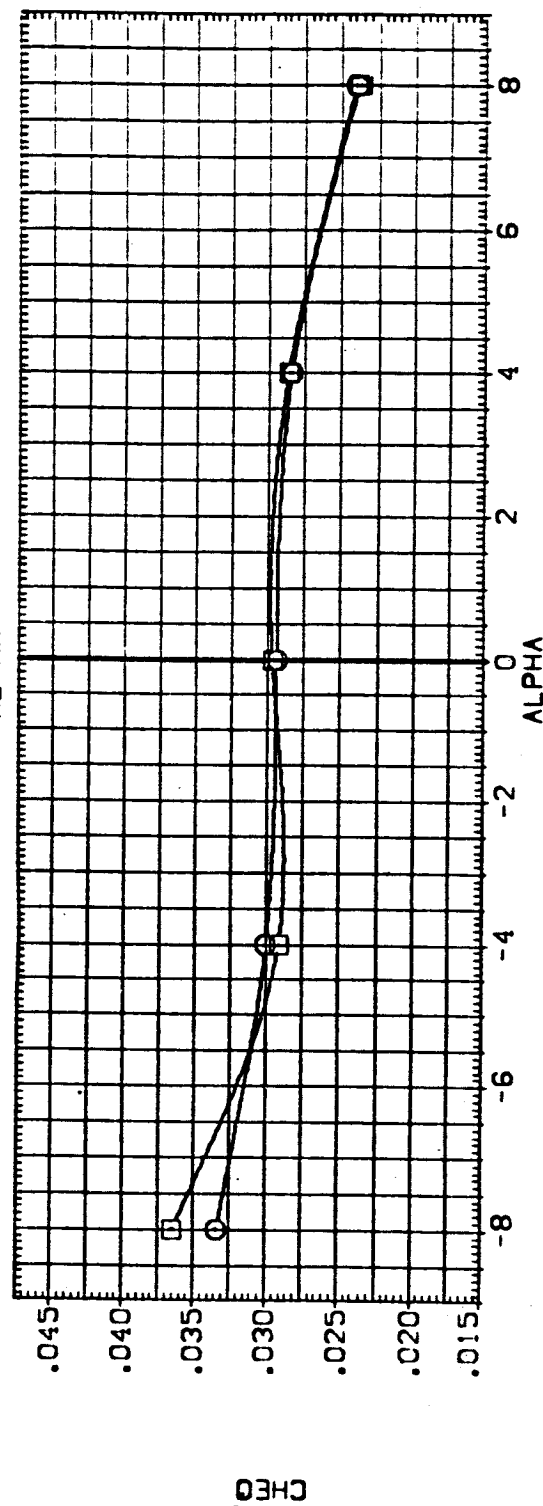
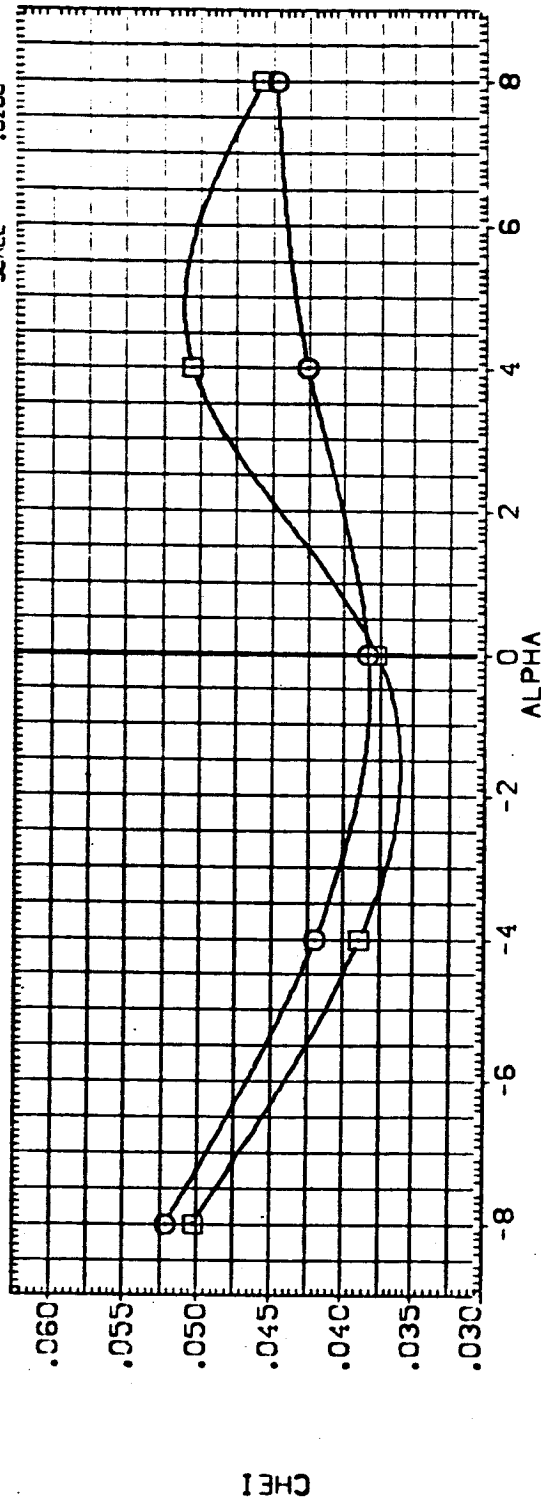


FIG. 40 EFFECT OF PLUMES - MACH=0.9 ELV-1B=0.0 ELV-08=0.0 BETA=0.0

CABETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (B-039) □ ARC11-0141A19 015
 (B-039) □ ARC11-0141A19 015

SRB-OFF MPS-OFF
 SRB-NOM MPS-OFF

ELV-18 ELV-09 MACH GIMBAL

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP 400.0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

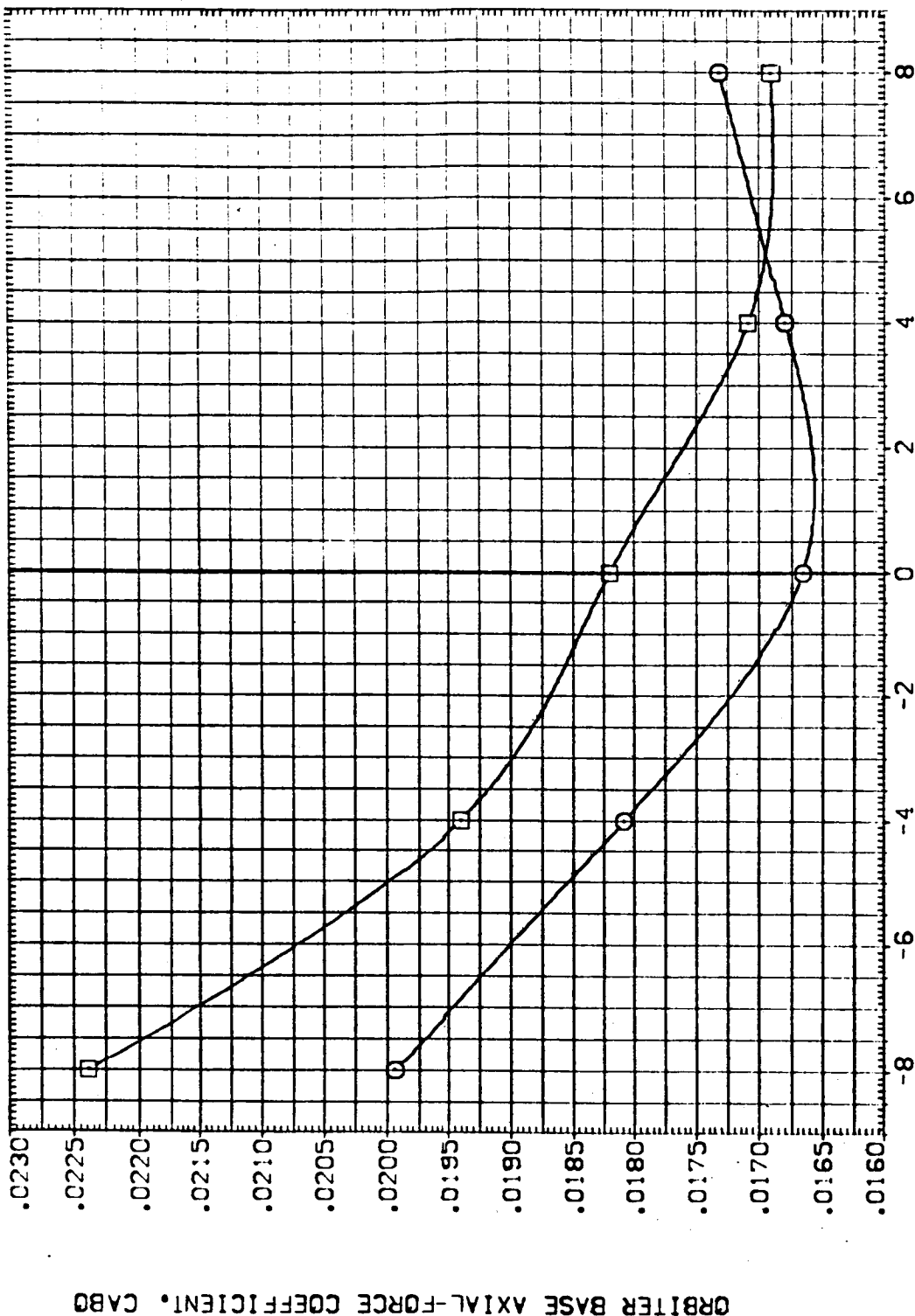


FIG. 40 EFFECT OF PLUMES - MACH=0.9 ELV-18=0.0 ELV-09=0.0 BETA=0.0

(A)BETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(3)LC39) ○ ARC11-0:41A19 OTS SPS-OF MPS-OF

(3)LC43: ARC11-0:41A19 OTS SPS-NOM MPS-OF

ELV-1B ELV-0B MACH GIMBAL REFERENCE INFORMATION

.000 .000 .900 1.000 SREF 2690.0000 SQ.FT.

.000 .000 .900 1.000 LREF 1290.3000 IN.

.000 .000 .900 1.000 BREF 1290.3000 IN.

.000 .000 .900 1.000 XMRB 976.0000 IN. XT

.000 .000 .900 1.000 YMRB 400.0000 IN. YT

.000 .000 .900 1.000 ZMRB 400.0000 IN. ZT

SCALE .0700

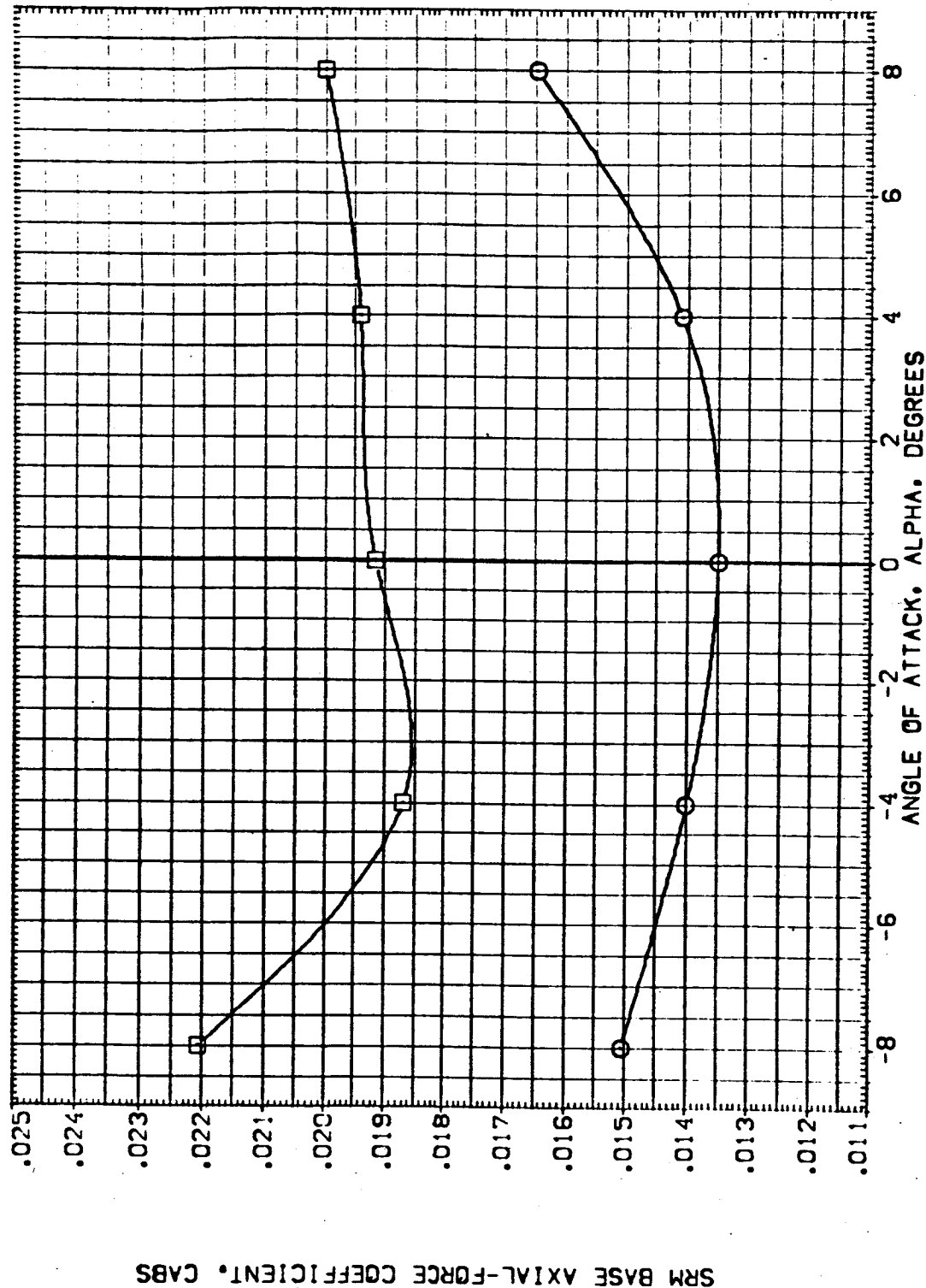


FIG. 40 EFFECT OF PLUMES - MACH=0.9 ELV-1B=0.0 ELV-0B=0.0 BETA=0.0

(A)BETA = .00

DATA SET SYMBOL: 3E-039
 CONFIGURATION DESCRIPTION: ARC11-0:41A19 OTS
 REFERENCE INFORMATION: SQ.FT. 2690.0000, IN. 1290.3000, IN. 576.0000, IN. 400.0000, SCALE .0200
 ELV-IB .000, ELV-OB .000, MACH .900, GIMBAL 1.000, 1.000
 S2B-DEF HPS-DEF, S2B-NOM HPS-DEF, XMRP, YMRP, ZMRP, IN. XT, IN. YT, IN. ZT

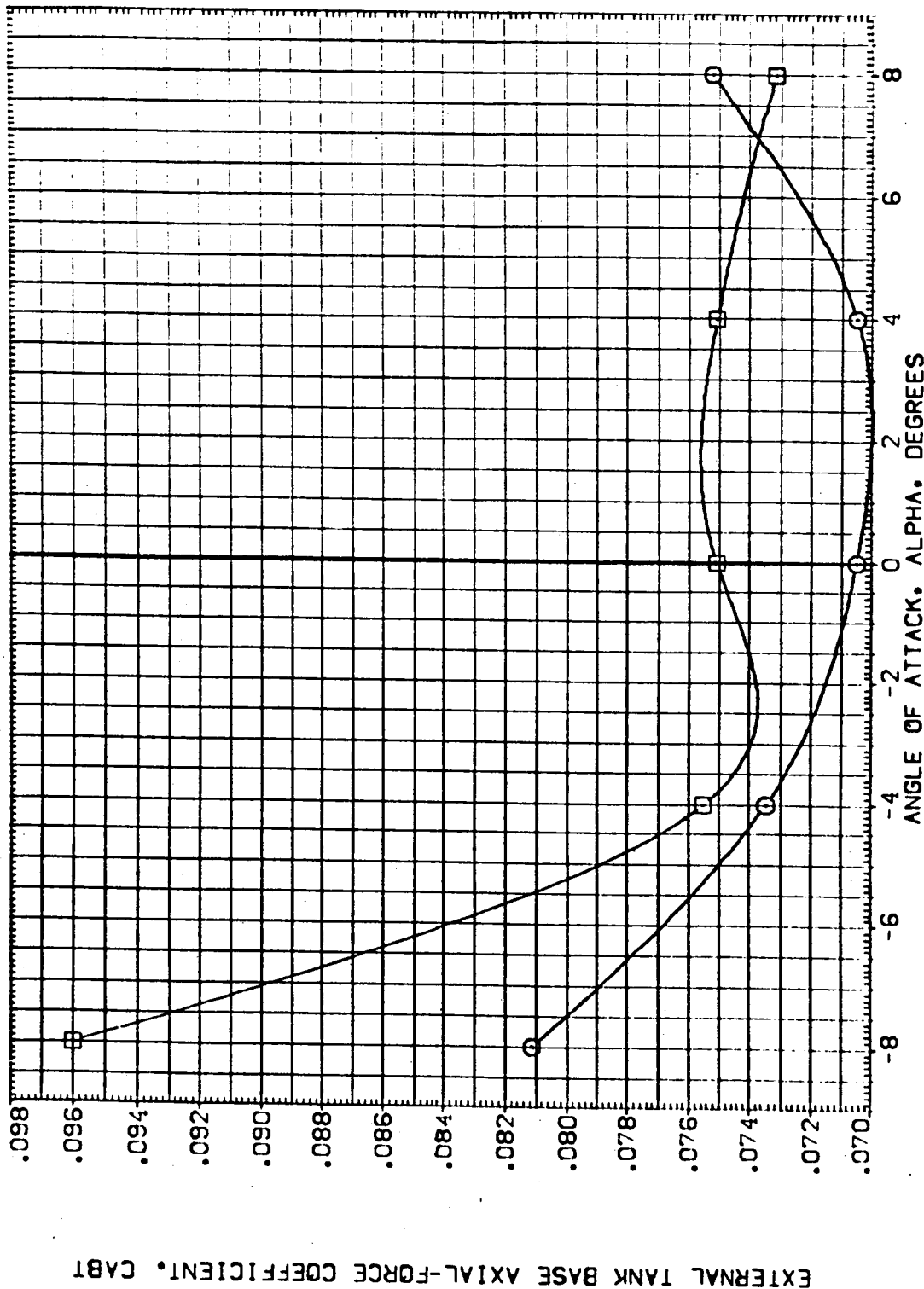


FIG. 40 EFFECT OF PLUMES - MACH=0.9 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0

CABETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-18	ELV-08	MACH	GIMBAL	SREF	2690.0000	50. FT.
(3EJ010)	ARC11-0141A19 OTS	.000	.000	1.100	1.000	LREF	1290.0000	IN.
(3EJ011)	ARC11-0141A19 OTS	.000	.000	1.100	1.000	BREF	1290.0000	IN.
						XMRP	976.0000	IN. XT
						YMRP	400.0000	IN. YT
						ZMRP	400.0000	IN. ZT
						SCALE	.0200	

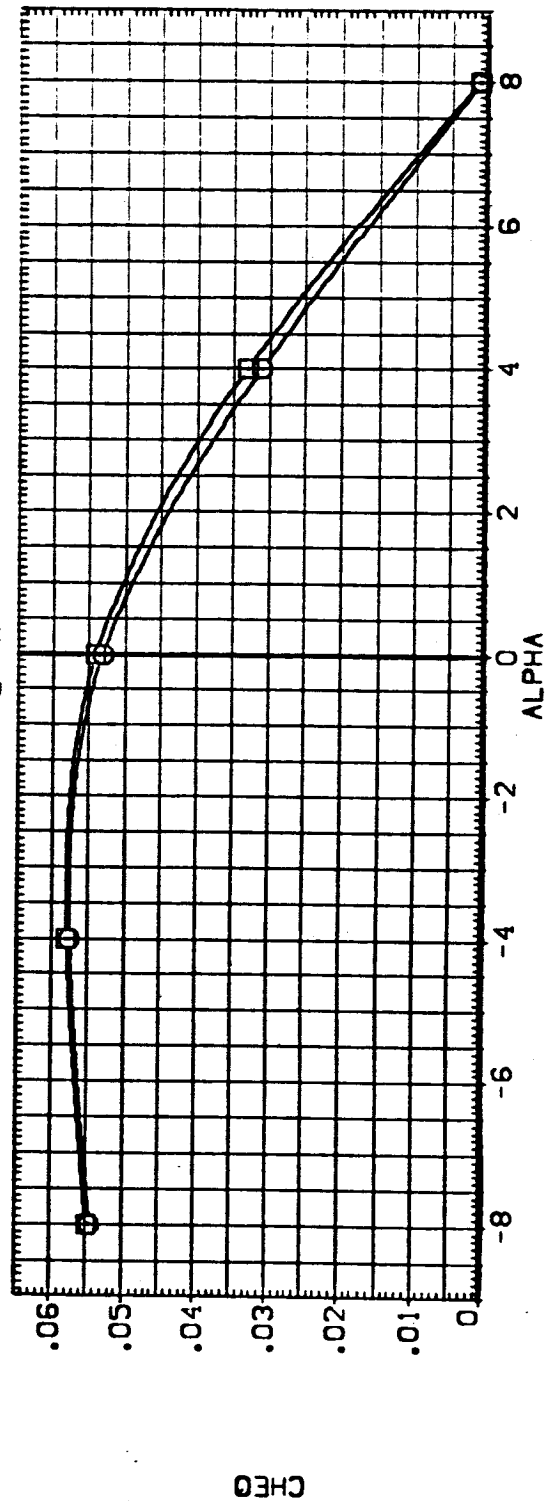
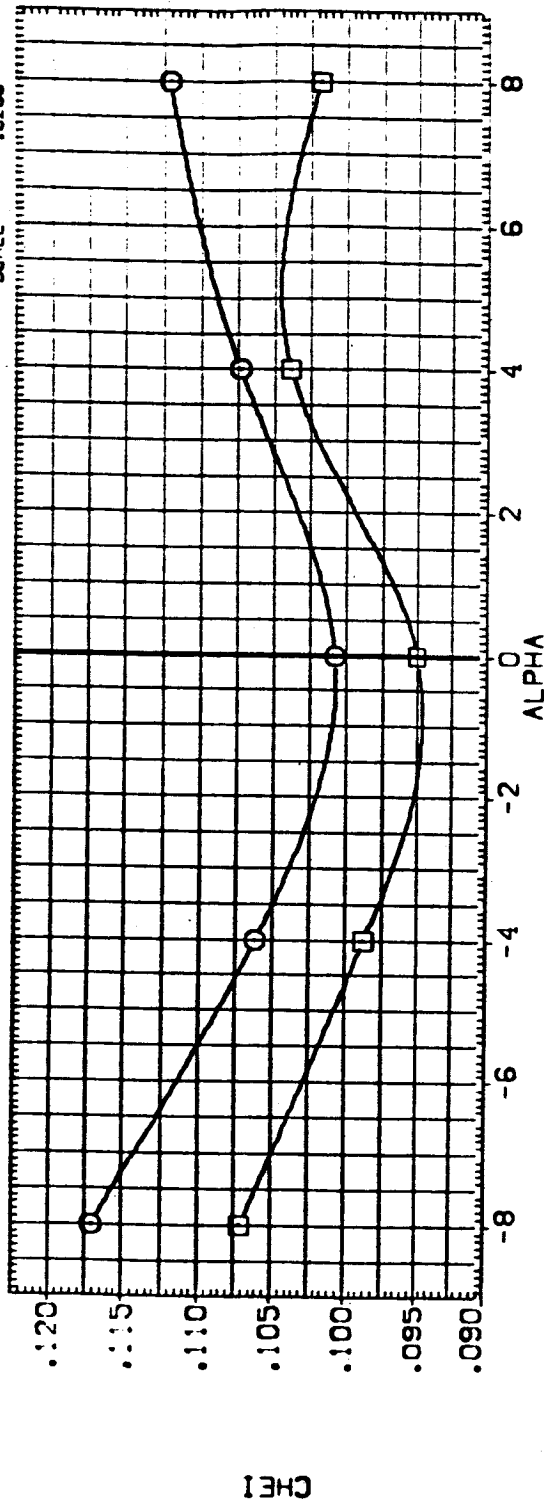


FIG. 41 EFFECT OF PLUMES - MACH=1.1 ELV-18=0.0 ELV-08=0.0 BETA=0.0

(A) BETA = .00

DATA SET SYMBOL: [B-010] [B-011] [B-012] [B-013] [B-014] [B-015] [B-016] [B-017] [B-018] [B-019] [B-020] [B-021] [B-022] [B-023] [B-024] [B-025] [B-026] [B-027] [B-028] [B-029] [B-030] [B-031] [B-032] [B-033] [B-034] [B-035] [B-036] [B-037] [B-038] [B-039] [B-040] [B-041] [B-042] [B-043] [B-044] [B-045] [B-046] [B-047] [B-048] [B-049] [B-050] [B-051] [B-052] [B-053] [B-054] [B-055] [B-056] [B-057] [B-058] [B-059] [B-060] [B-061] [B-062] [B-063] [B-064] [B-065] [B-066] [B-067] [B-068] [B-069] [B-070] [B-071] [B-072] [B-073] [B-074] [B-075] [B-076] [B-077] [B-078] [B-079] [B-080] [B-081] [B-082] [B-083] [B-084] [B-085] [B-086] [B-087] [B-088] [B-089] [B-090] [B-091] [B-092] [B-093] [B-094] [B-095] [B-096] [B-097] [B-098] [B-099] [B-100]

CONFIGURATION DESCRIPTION: [B-010] [B-011] [B-012] [B-013] [B-014] [B-015] [B-016] [B-017] [B-018] [B-019] [B-020] [B-021] [B-022] [B-023] [B-024] [B-025] [B-026] [B-027] [B-028] [B-029] [B-030] [B-031] [B-032] [B-033] [B-034] [B-035] [B-036] [B-037] [B-038] [B-039] [B-040] [B-041] [B-042] [B-043] [B-044] [B-045] [B-046] [B-047] [B-048] [B-049] [B-050] [B-051] [B-052] [B-053] [B-054] [B-055] [B-056] [B-057] [B-058] [B-059] [B-060] [B-061] [B-062] [B-063] [B-064] [B-065] [B-066] [B-067] [B-068] [B-069] [B-070] [B-071] [B-072] [B-073] [B-074] [B-075] [B-076] [B-077] [B-078] [B-079] [B-080] [B-081] [B-082] [B-083] [B-084] [B-085] [B-086] [B-087] [B-088] [B-089] [B-090] [B-091] [B-092] [B-093] [B-094] [B-095] [B-096] [B-097] [B-098] [B-099] [B-100]

ELV-18: .000
ELV-08: .000
MACH: 1.100
G-MBAL: 1.000

REFERENCE INFORMATION:
SREF: 2690.0000
LREF: 1290.3000
BREF: 1290.3000
XMRP: 576.0000
YMRP: .0000
ZMRP: 400.0000
SCALE: 400.0000

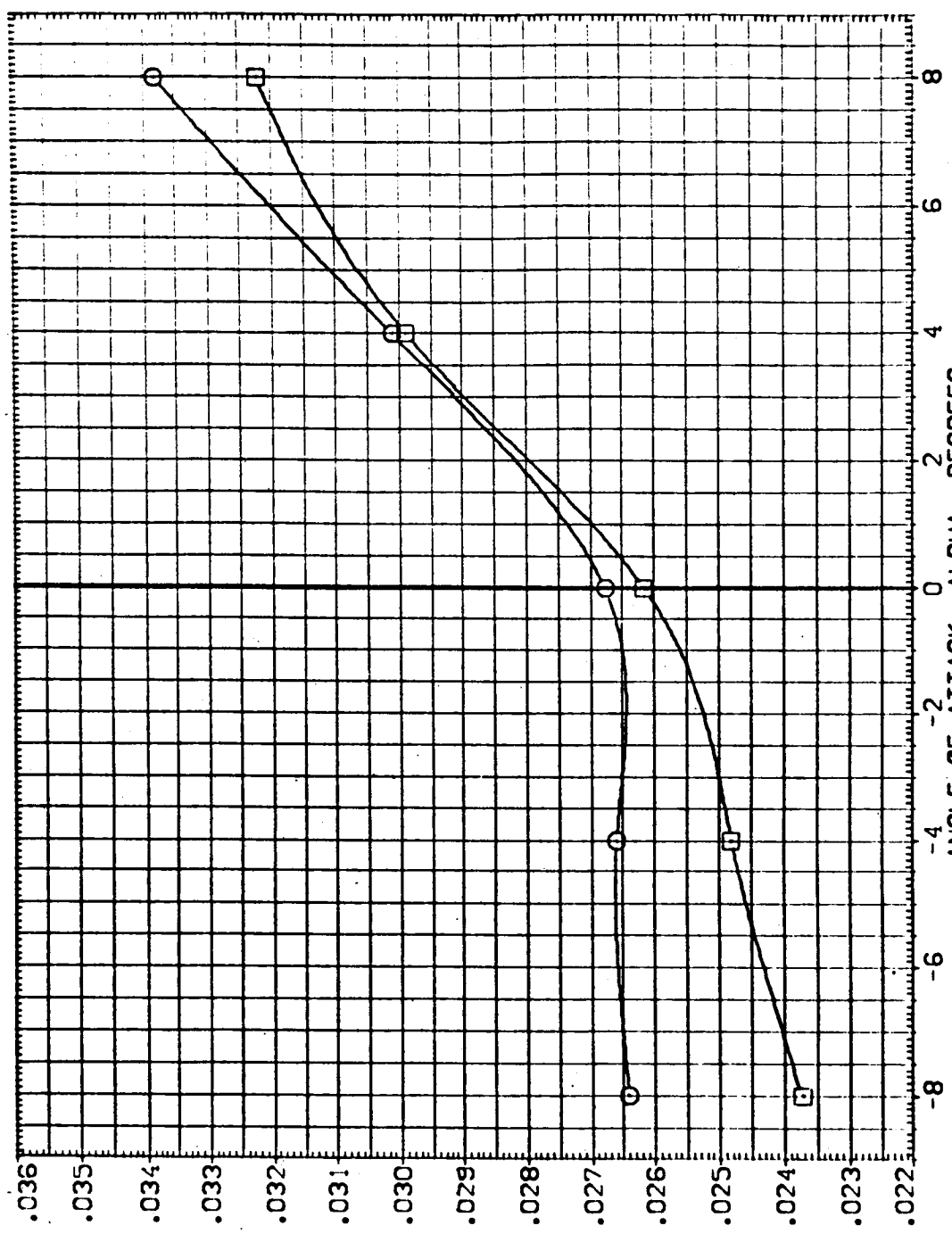


FIG. 41 EFFECT OF PLUMES - MACH=1.1 ELV-18=0.0 ELV-08=0.0 BETA=0.0

CABETA = .00

0	ARC11-0141A19 01S	S93-0FF	M93-0FF
	ARC11-0141A19 01S	S93-NON	M93-0FF

ELV-1B	ELV-OB	MACH	GIMBAL
--------	--------	------	--------

REFERENCE INFORMATION	
SREF	2690.0000 50.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN. XT
XMRP	976.0000 IN. YT
YMRP	.0000 IN. ZT
ZMRP	400.0000 IN.
	.0200 SCALE

SRM BASE AXIAL-FORCE COEFFICIENT, CABS

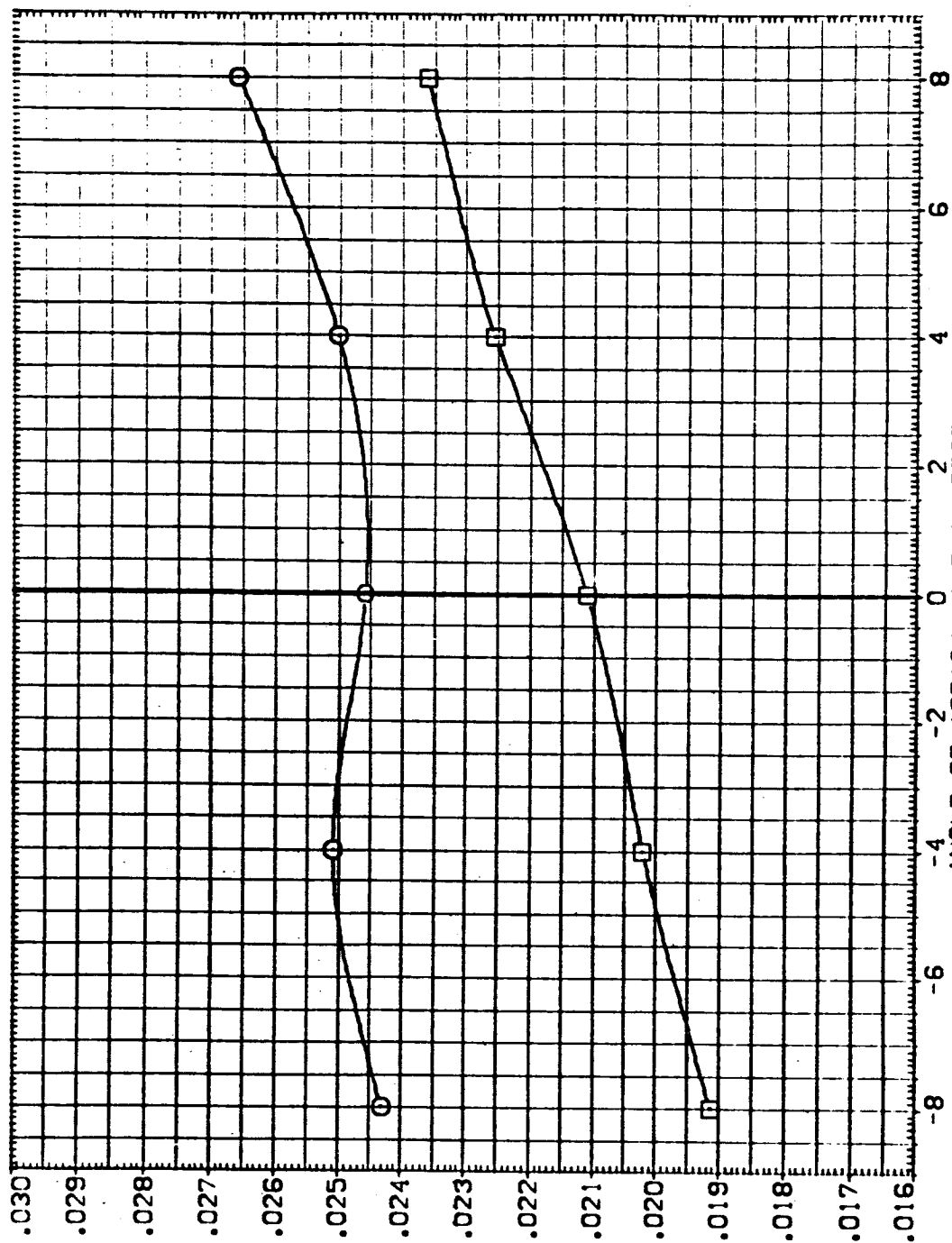


FIG. 41 EFFECT OF PLUMES - MACH=1.1 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0

CAPBETA = .00

DATA SET SYMBOL: 0141A19 015
 CONFIGURATION DESCRIPTION: SRB-OF MPS-OF SRB-NOM MPS-OF
 REFERENCE INFORMATION: SRPREF 2690.0000 SQ.FT. LREF 1290.3000 IN. BRPREF 1290.3000 IN. XT XMRP 976.0000 IN. YT YMRP .0000 IN. ZT ZMRP 400.0000 IN. SCALE 0.0200

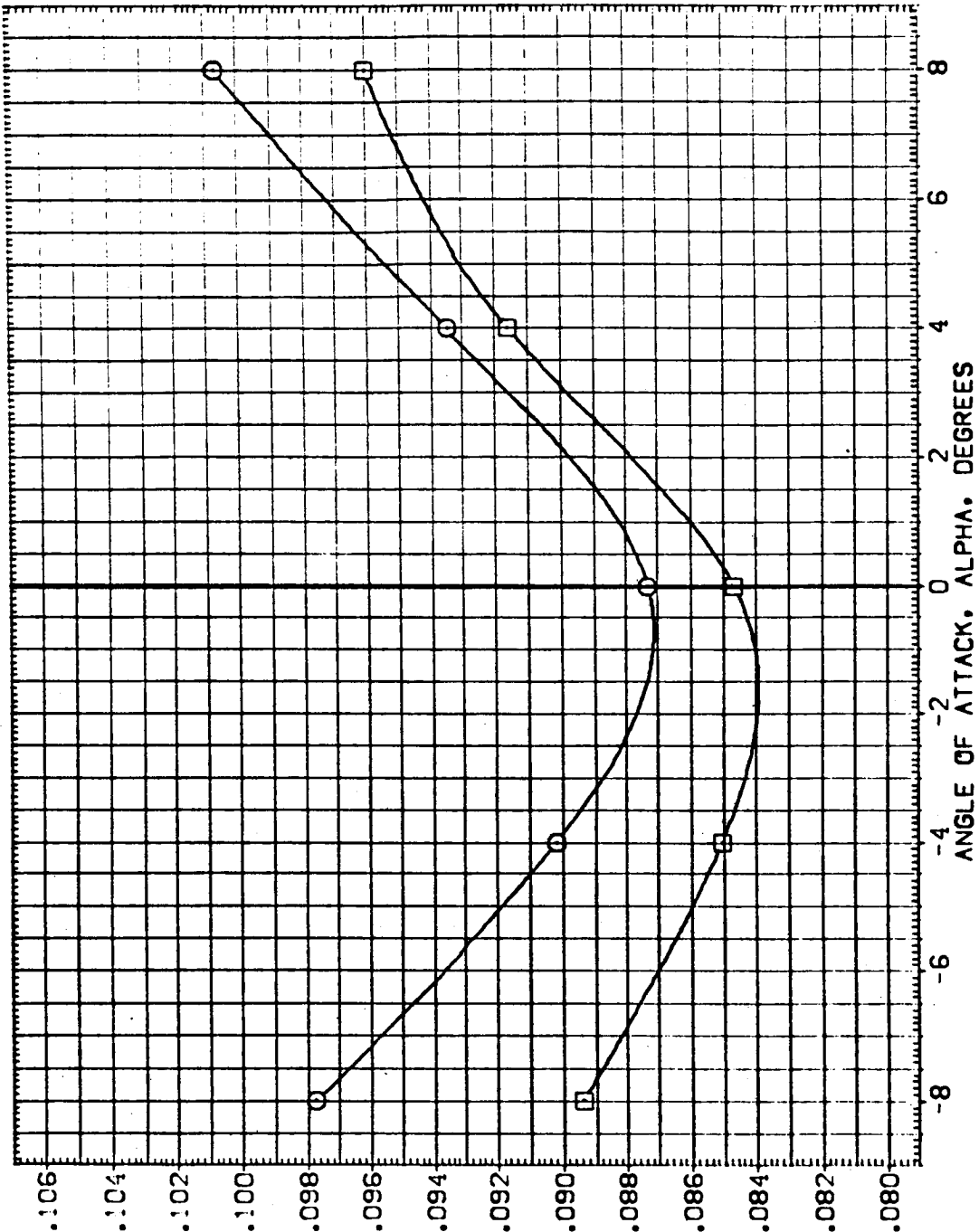


FIG. 41 EFFECT OF PLUMES - MACH=1.1 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0

(A)BETA = .00



DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(B-101)	○	ARC11-0141A19 OTS	SRB-OFF MPS-OFF	SREF	2690.0000
(B-105)	□	ARC11-0141A19 OTS	SRB-NOM MPS-OFF	LREF	1290.3000
				BREF	1290.3000
				XMRP	576.0000
				YMRP	.0000
				ZMRP	.0000
				SCALE	.0200
				GIMBAL	1.000
				MACH	1.250
				ELV-OB	.000
				ELV-IB	.000
				IN. X1	IN. Y1
				IN. Z1	

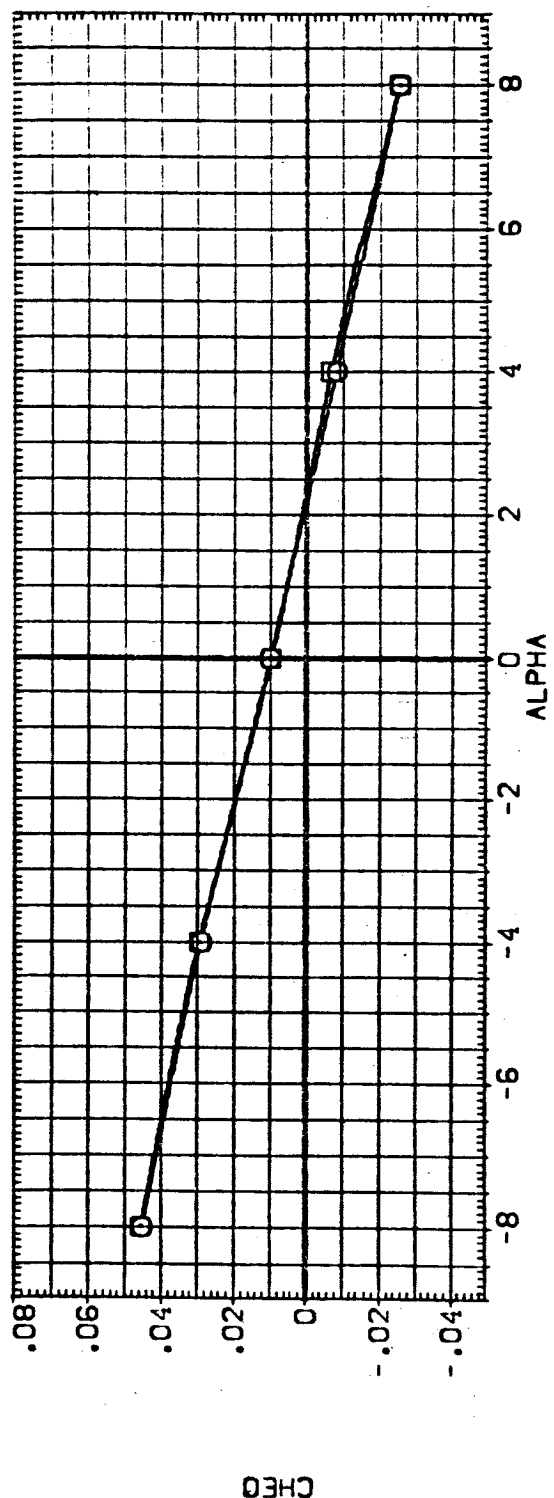
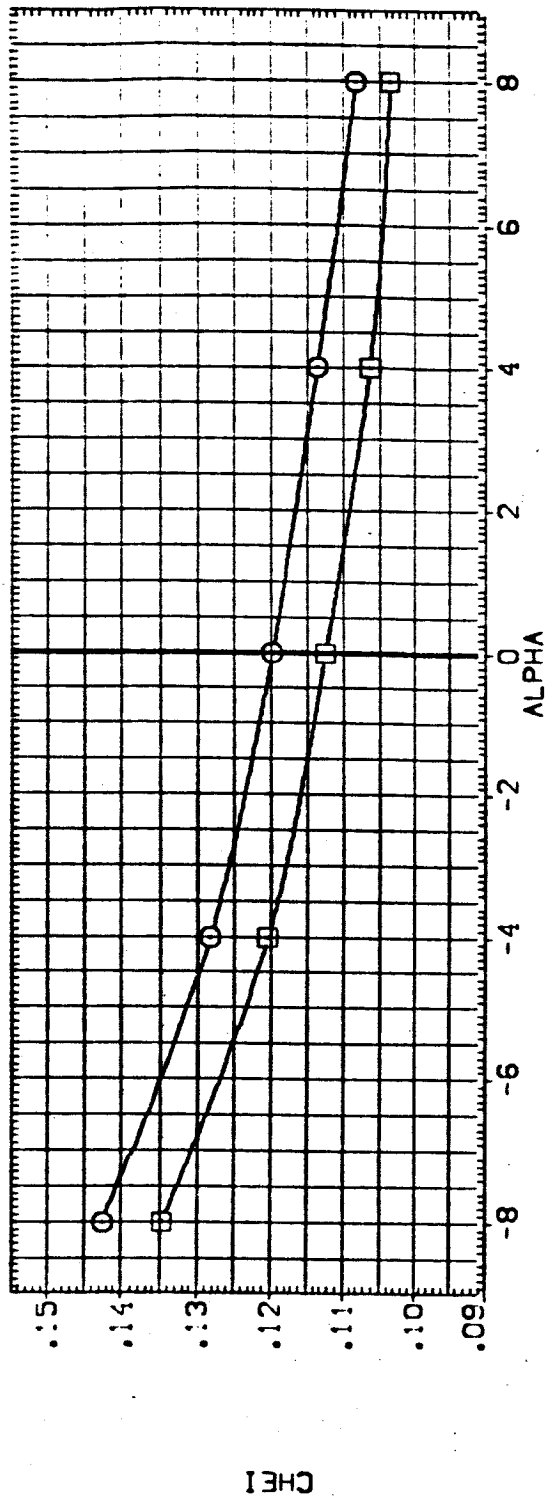
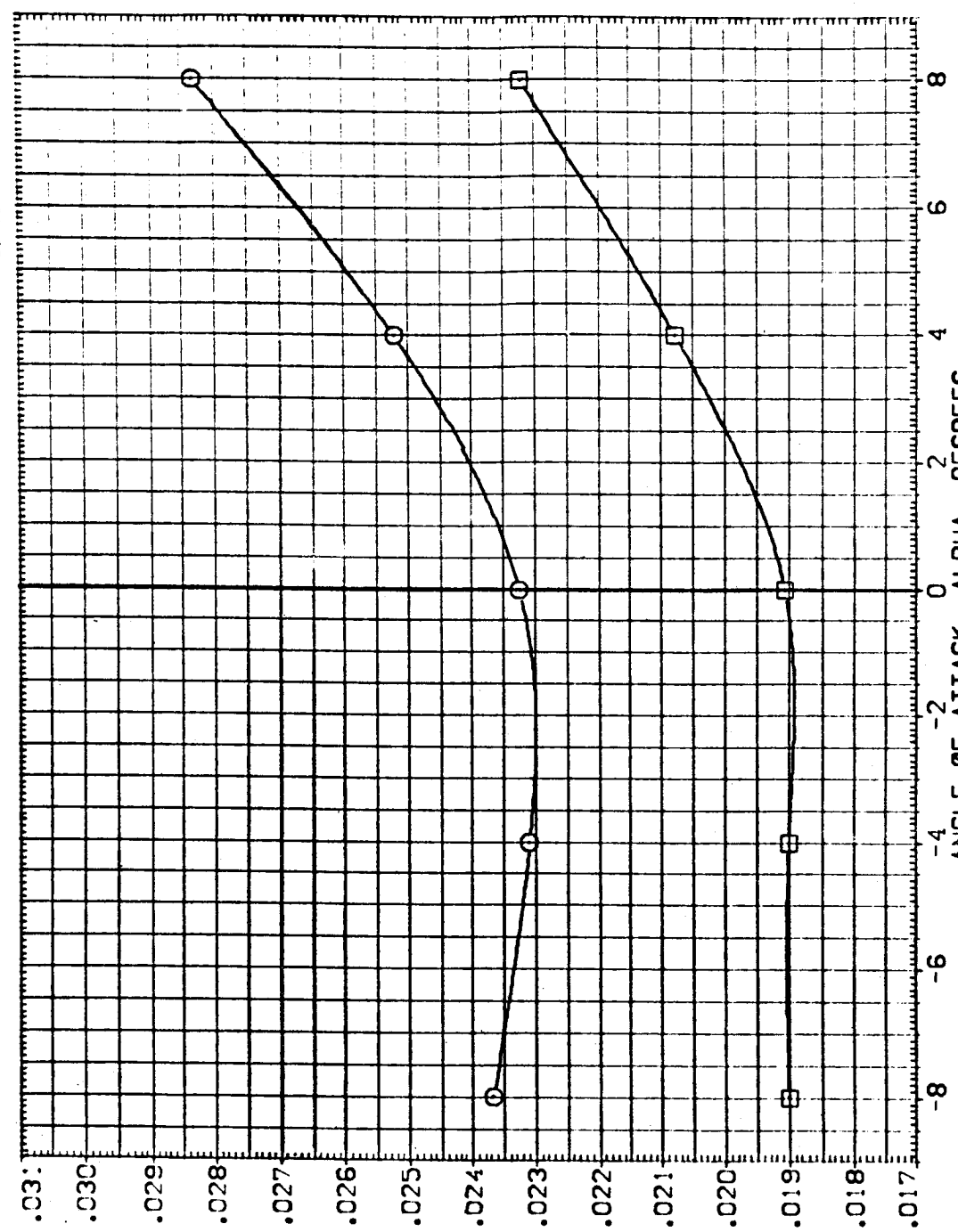


FIG. 42 EFFECT OF PLUMES - MACH=1.25 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0

(A)BETA = .00

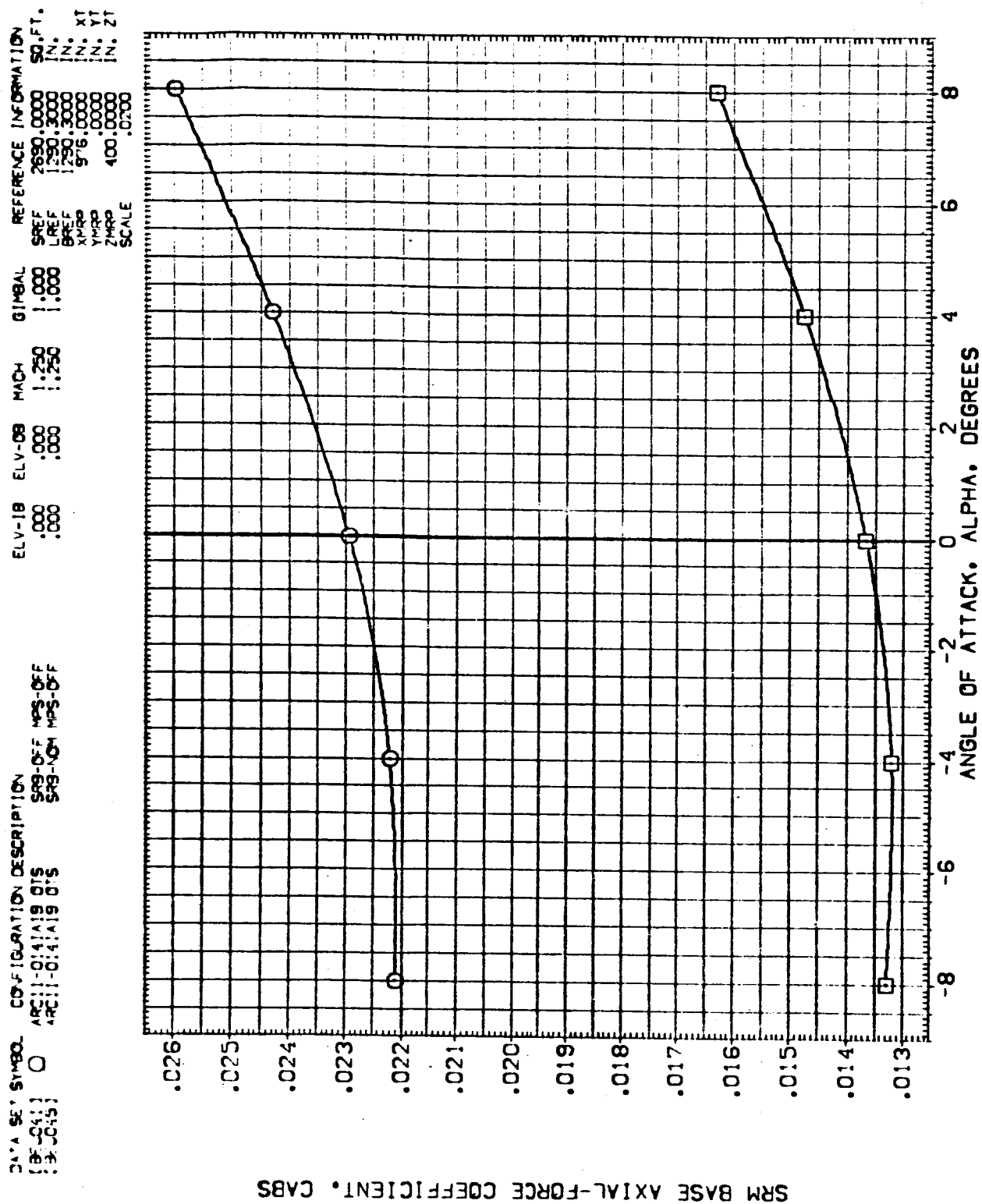
DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	GINBAL	REFERENCE INFORMATION
(B) 0411	ARC11-0141A19 01S	.000	.000	1.250	1.000	SREF 2690.0000 SQ.FT.
(B) 0451	ARC11-0141A19 01S	.000	.000	1.250	1.000	LREF 1290.3000 IN.
						BREF 1290.3000 IN.
						XT 976.0000 IN.
						YMRP .0000 IN.
						ZMRP .0000 IN.
						SCALE 400.0000



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FIG. 42 EFFECT OF PLUMES - MACH=1.25 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0

CABETA = .00



DATA SET SYMBOL: 0411A19 01S
 (3 UC42) 0411A19 01S
 (3 UC46) 0411A19 01S

CONFIGURATION DESCRIPTION: 0411A19 01S
 SREF: 2690.0000 SQ.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN.
 XMRP: 976.0000 IN. XT
 YMRP: .0000 IN. YT
 ZMRP: 400.0000 IN. ZT
 SCALE: .0200

REFERENCE INFORMATION: 0411A19 01S
 SREF: 2690.0000 SQ.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN.
 XMRP: 976.0000 IN. XT
 YMRP: .0000 IN. YT
 ZMRP: 400.0000 IN. ZT
 SCALE: .0200

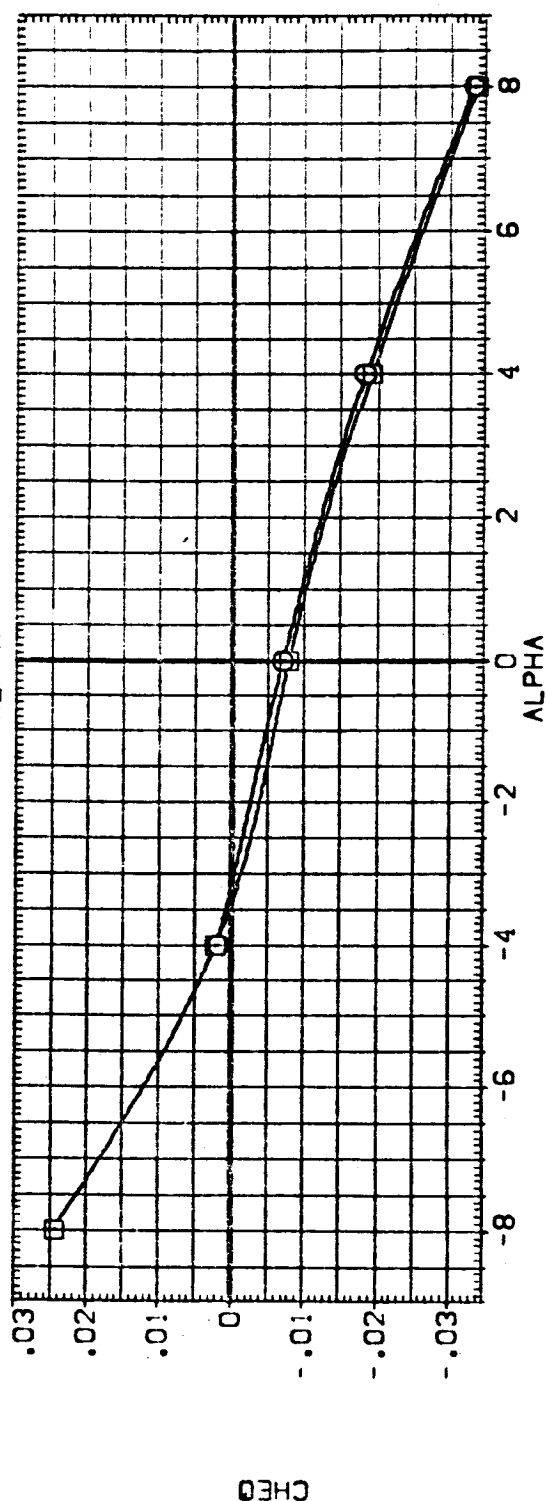
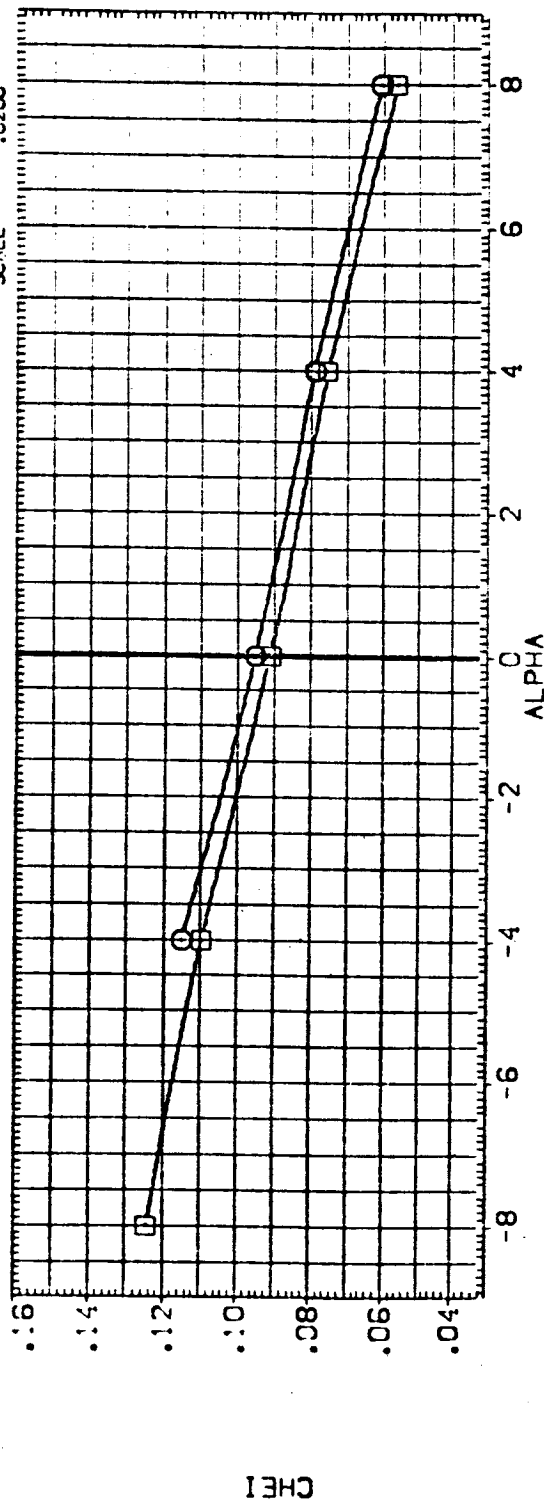


FIG. 43 EFFECT OF PLUMES - MACH=1.4 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0

CABETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GIMBAL	SREF	2650.0000	SO.F.T.
(3EJ042)	ARC11-0141A19 OTS	.000	.000	1.400	1.000	LREF	1230.3000	IN.
(3EJ046)	ARC11-0141A19 OTS	.000	.000	1.400	1.000	BREF	1230.3000	IN.
						XMPP	976.0000	IN.
						YMPP	400.0000	IN.
						ZMPP	400.0000	IN.
						SCALE	.0200	IN.

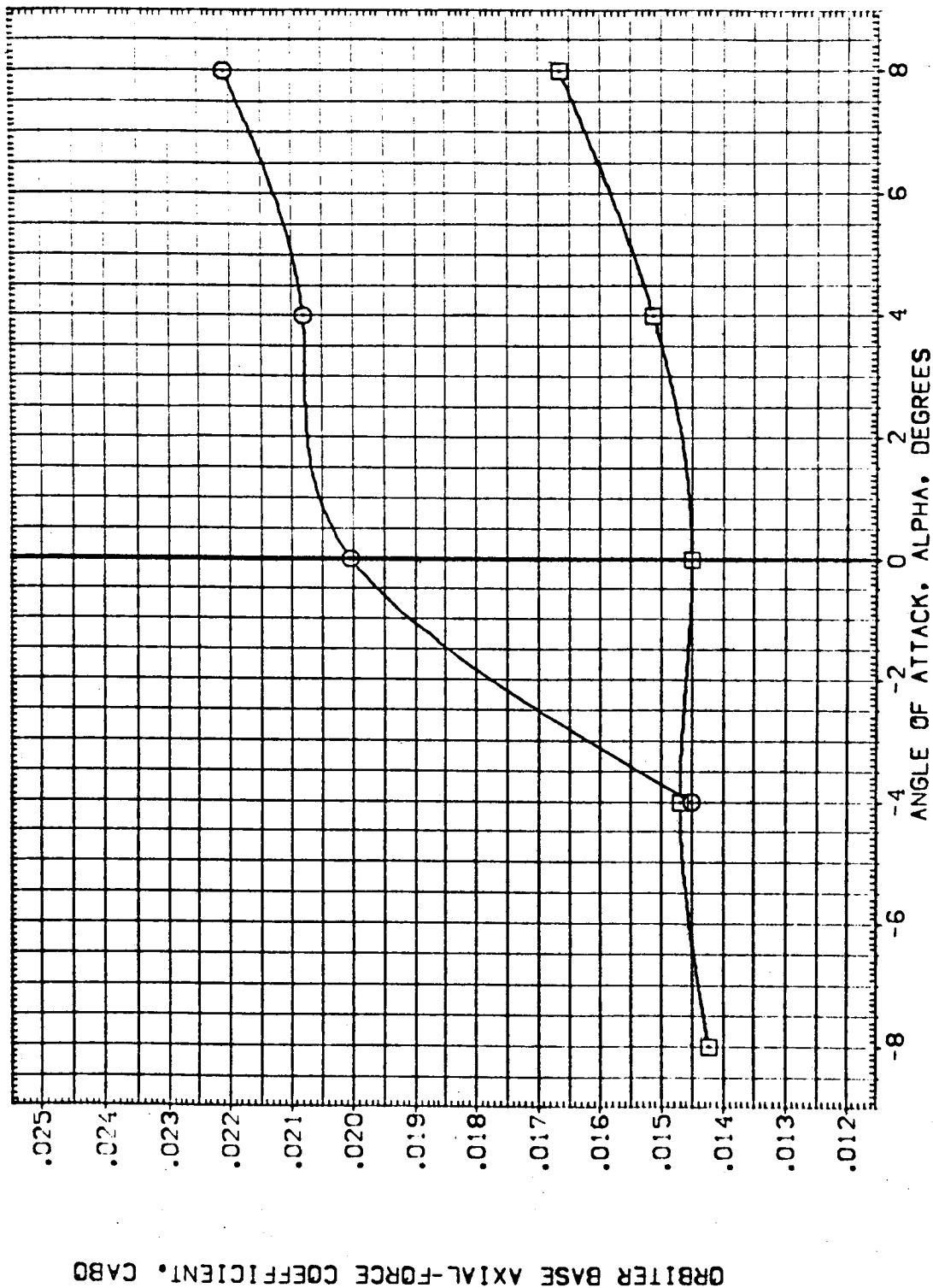


FIG. 43 EFFECT OF PLUMES - MACH=1.4 ELV-1B=0.0 ELV-0B=0.0 BETA=0.0

CABETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

SRB-OFF	MPS-OFF	SRB-NOM	MPS-OFF	ELV-1B	ELV-0B	MACH	GIMBAL	REFERENCE INFORMATION
ARC11-0141A19	OTS	OTS		.000	.000	1.400	1.000	SREF 2690.0000 SQ.FT.
ARC11-0141A19	OTS	OTS		.000	.000	1.400	1.000	LREF 1290.3000 IN.
								SREF 1290.3000 IN.
								XMRP 976.0000 IN. XT
								YMRP .0000 IN. YT
								ZMRP 400.0000 IN. ZT
								SCALE .0200

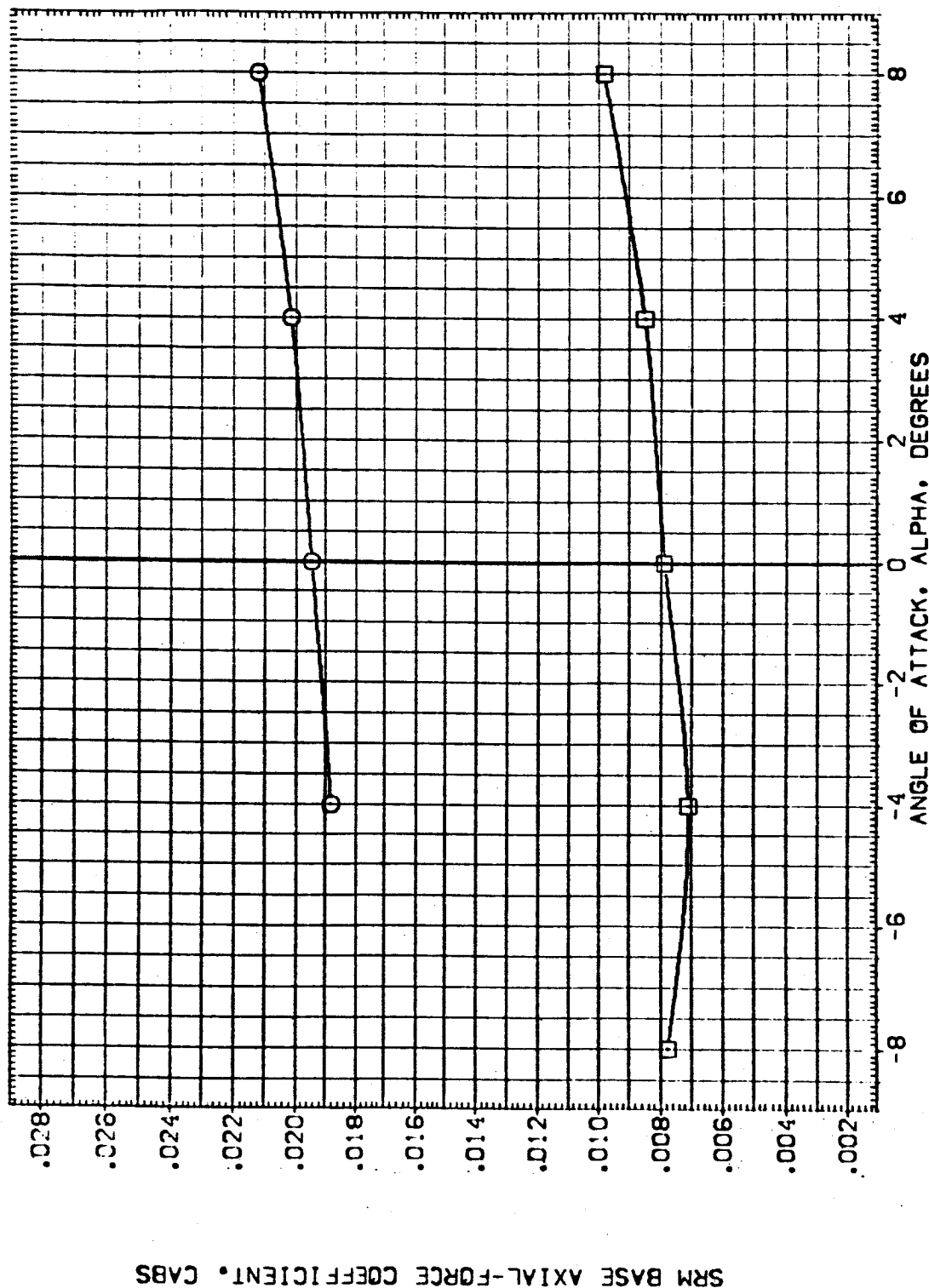


FIG. 43 EFFECT OF PLUMES - MACH=1.4 ELV-1B=0.0 ELV-0B=0.0 BETA=0.0

CABETA = .00

DATA SET SYMBOL: 01419 DIS
 CONFIGURATION DESCRIPTION: SPS-OF MPS-OF SPS-NOM MPS-OF
 REFERENCE INFORMATION: SREF 2690.0000 SQ.FT. LREF 1290.3000 IN. BREF 1290.3000 IN. XT 976.0000 IN. YI 400.0000 IN. ZI 400.0000 IN. SCALE 0.0200

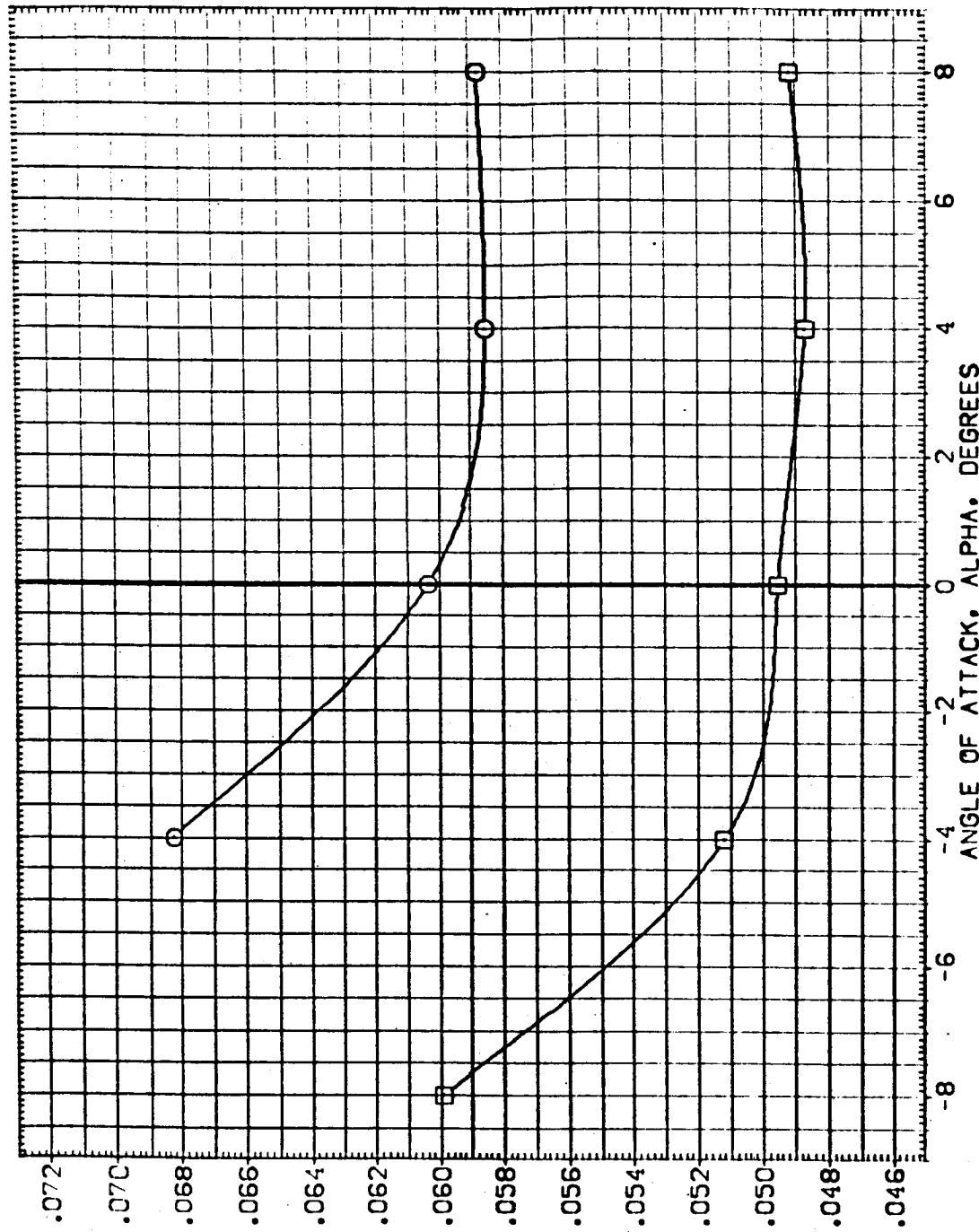


FIG. 43 EFFECT OF PLOMES - MACH=1.4 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0

CABT = .00

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(SEUC39)	○	ARC11-0141A19 OTS	SRB-OFF MPS-OFF	SREF	2690.0000 SQ.FT.
(SEUC43)	○	ARC11-0141A19 OTS	SRB-NOM MPS-OFF	LREF	1290.3000 IN.
				BREF	1290.3000 IN.
				XMRP	976.0000 IN. XT
				YMRP	0.0000 IN. YT
				ZMRP	400.0000 IN. ZT
				SCALE	.0200

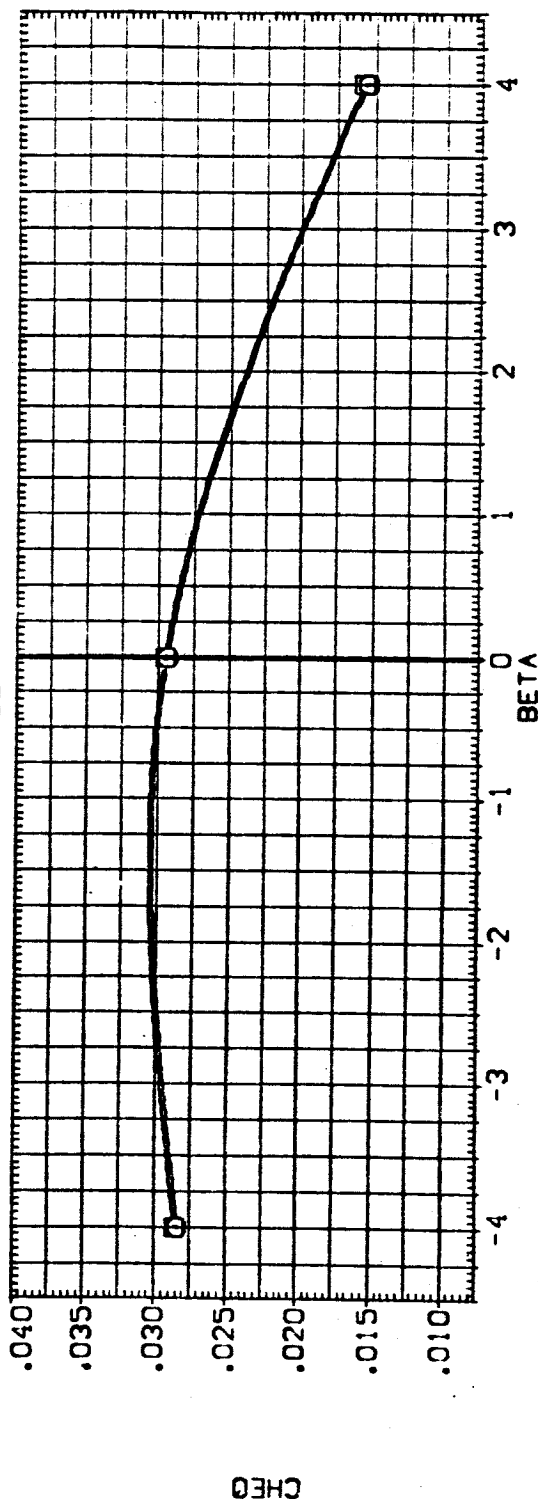
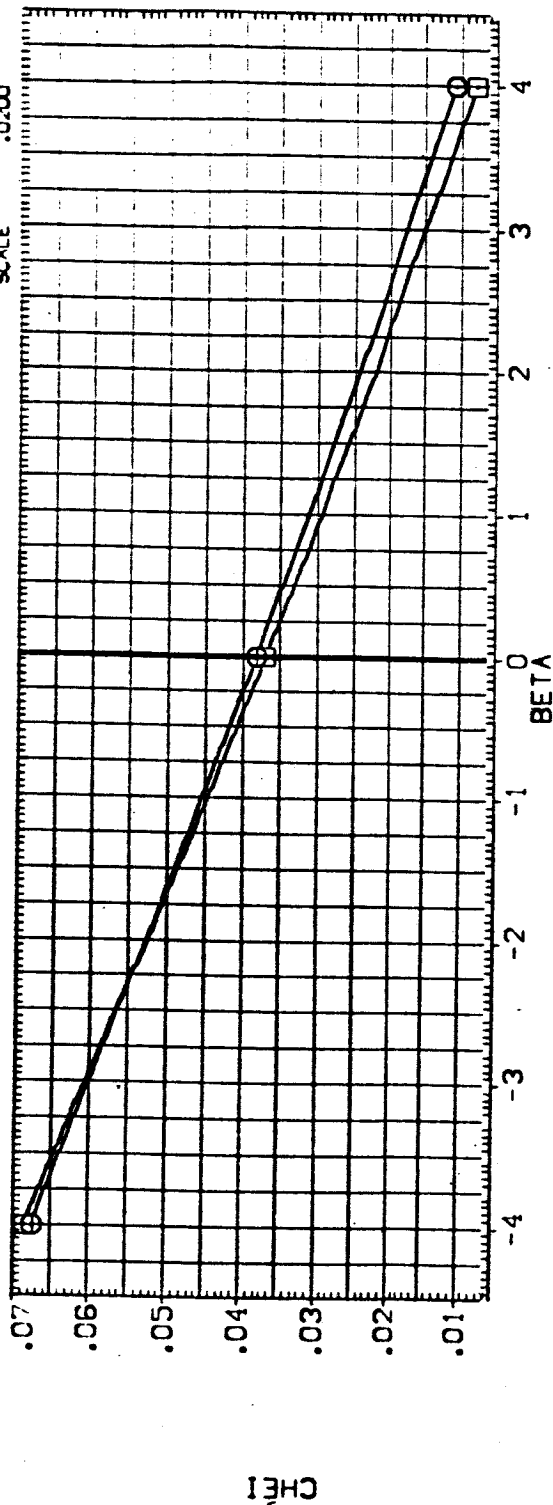
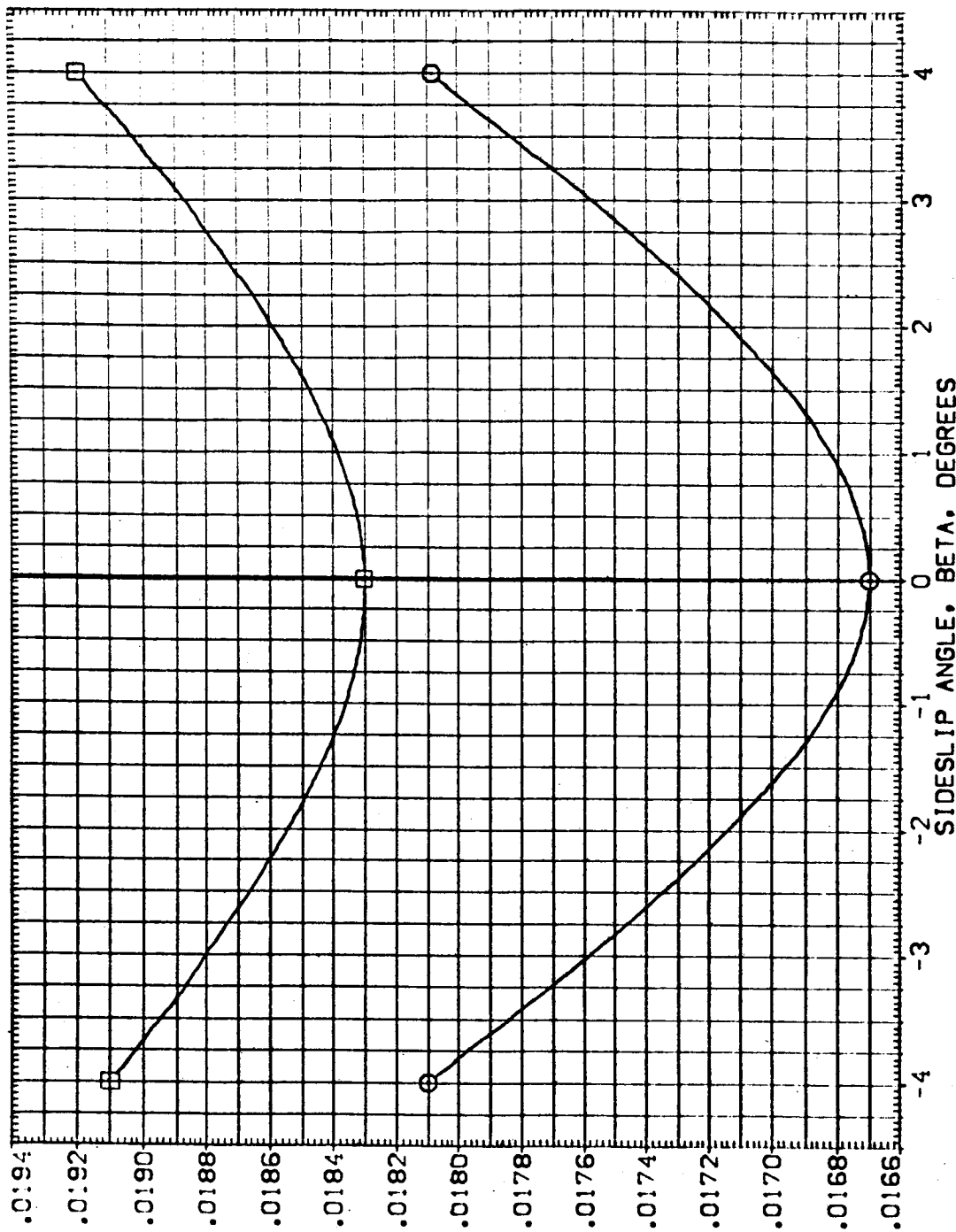


FIG. 44 EFFECT OF PLUMES - MACH=0.9 ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.0

CALPHA = .00

DATA SET SYMBOL: (CE-039) (CE-033) CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS ARC11-0141A19 OTS SRB-OFF MPS-OFF SRB-NOM MPS-OFF ELV-IB .000 ELV-OB .000 MACH .900 GIMBAL 1.000 1.000 REFERENCE INFORMATION: SREF 2690.0000 50.FT. LREF 1290.3000 IN. BREF 1290.3000 IN. XT XMRP 576.0000 IN. YMRP .0000 IN. ZMRP 400.0000 IN. ZT SCALE .0200



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FIG. 44 EFFECT OF PLUMES - MACH=0.9 ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.0

(A) ALPHA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

[CE-039] ○ ARC11-0141A19 DT5 SRB-OFF MPS-OFF

[CE-043] ARC11-0141A19 DT5 SRB-NOM MPS-OFF

ELV-1B ELV-08 MACH GIMBAL

.000 .000 .900 1.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.

LREF 1290.3000 IN.

BREF 1290.3000 IN.

XMRP 976.0000 IN. XT

YMRP .0000 IN. YT

ZMRP 400.0000 IN. ZT

SCALE .0200

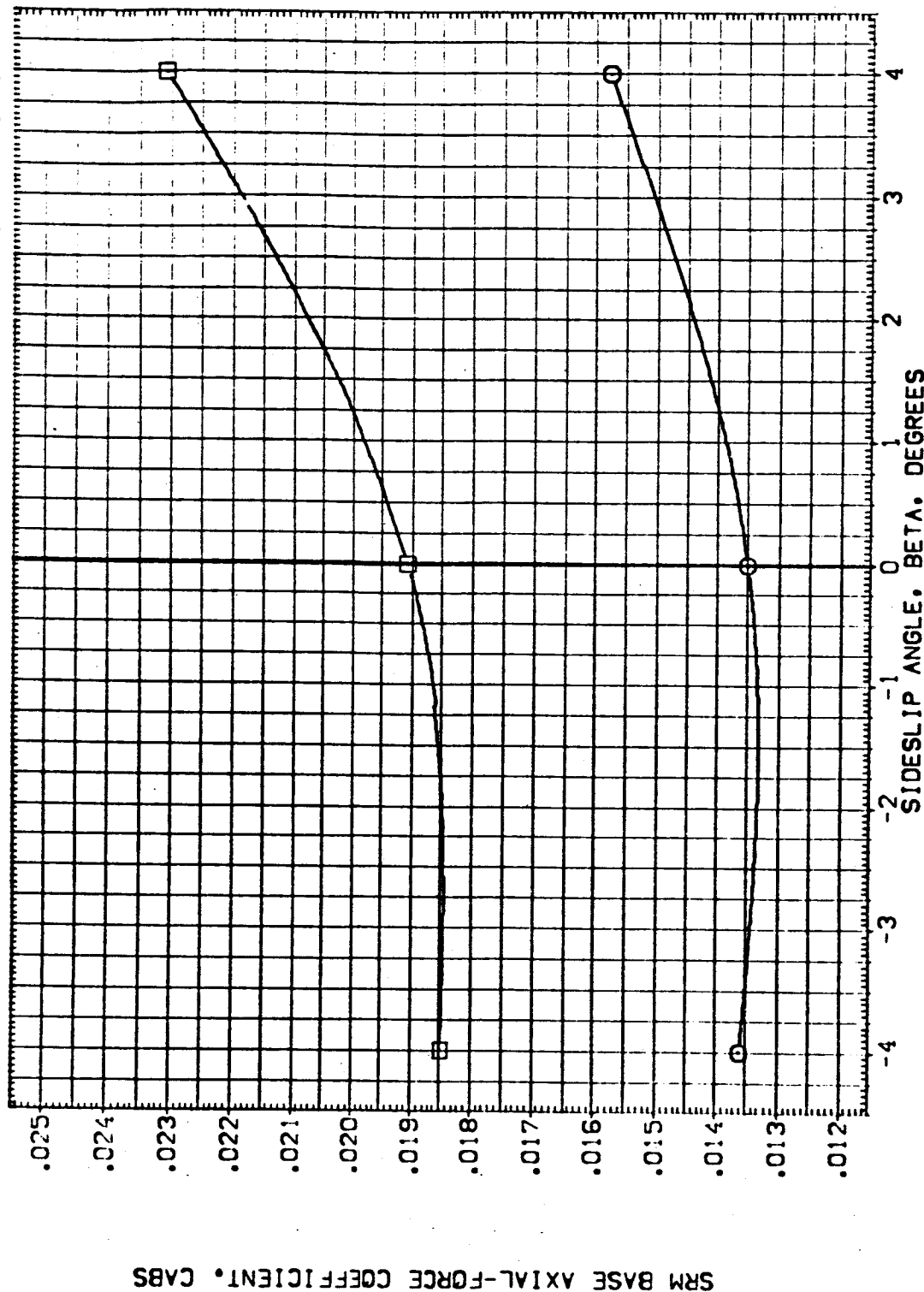


FIG. 44 EFFECT OF PLUMES - MACH=0.9 ELV-1B=0.0 ELV-08=0.0 ALPHA=0.0

CALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

(CEUC39)	ARC11-0141A19 OTS	SREF 2690.0000	SQ.FT.
(CEUC43)	ARC11-0141A19 OTS	LREF 1290.3000	IN.
		BREF 1290.3000	IN.
		XMRP 576.0000	IN.
		YMRP .0000	IN.
		ZMRP 400.0000	IN.
		SCALE .0200	

ELV-IB ELV-OB MACH GIMBAL

.000 .000 .900 1.000

.000 .000 .900 1.000

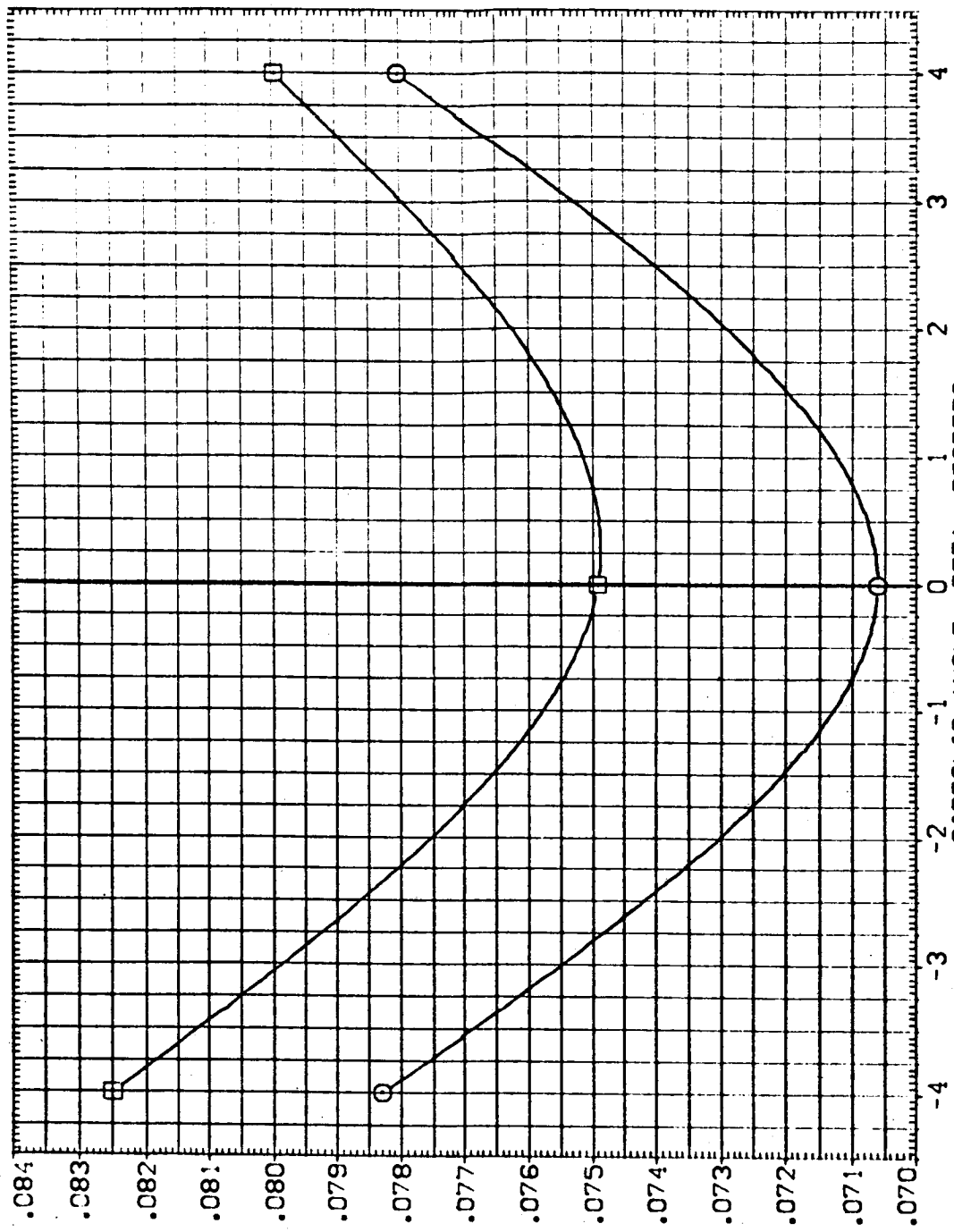


FIG. 44 EFFECT OF PLUMES - MACH=0.9 ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.0

(A) ALPHA = .00



DATA SET SYMBOL. CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-08	MACH	GIMBAL	SCALE
CEJ010	ARC11-0141A19 OTS	.000	.000	1.100	1.000	2690.0000
CEJ044	ARC11-0141A19 OTS	.000	.000	1.100	1.000	1290.3000
						1290.3000
						576.0000
						400.0000
						0.0200

IN. XT
IN. YT
IN. ZT

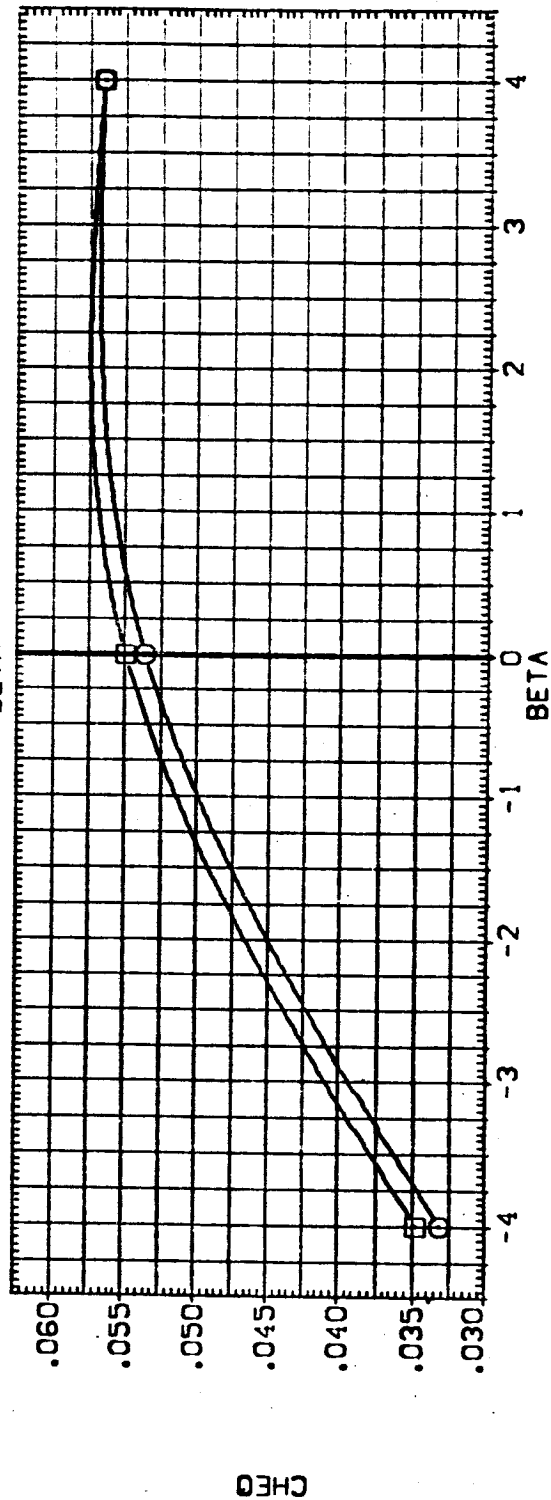
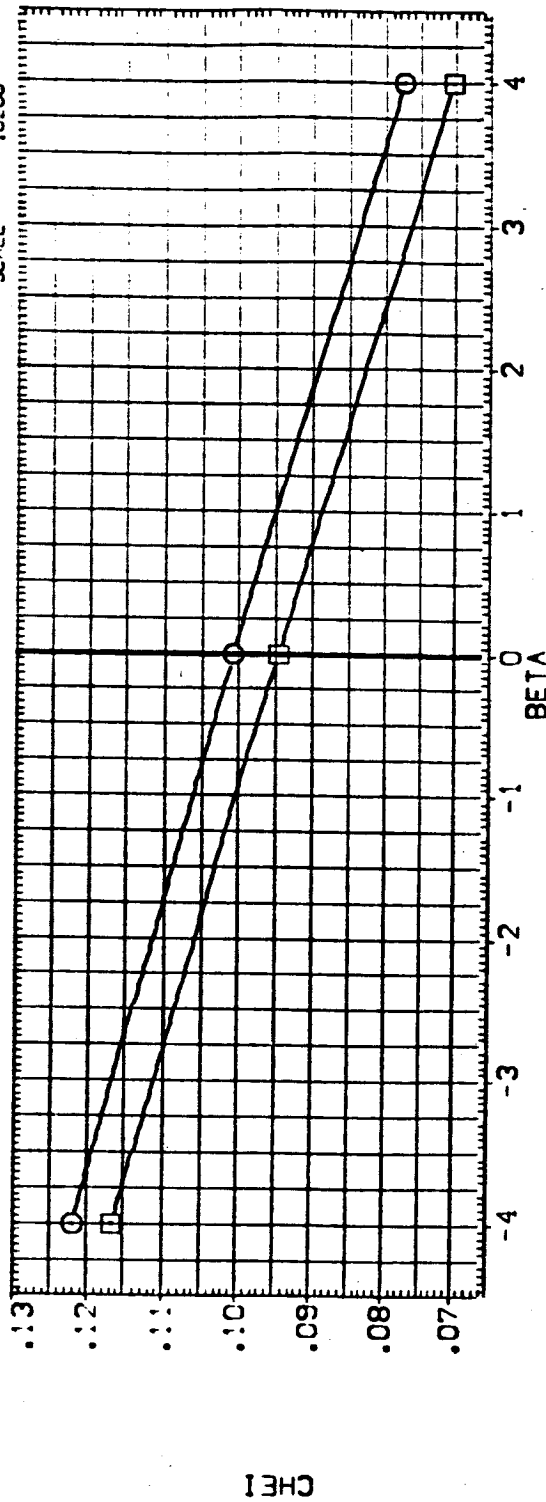


FIG. 45 EFFECT OF PLUMES - MACH=1.1 ELV-1B=0.0 ELV-08=0.0 ALPHA=0.0

(A) ALPHA = .00

[illegible]

Q
[CEJ040] ARC!!-0141A19 OTS
[CEJ044] ARC!!-0141A19 OTS

330-564 MON-BES
330-564 330-BES

ARC!!-0!4!A!9 OTS
ARC!!-0!4!A!9 OTS

ELV-18 ELV-08 MACH TYPING GIMBAL

0001

88

REFERENCE INFORMATION

SRF	2690.0000	50.FT.
REF	1290.3000 <th>IN.</th>	IN.

9. ET.

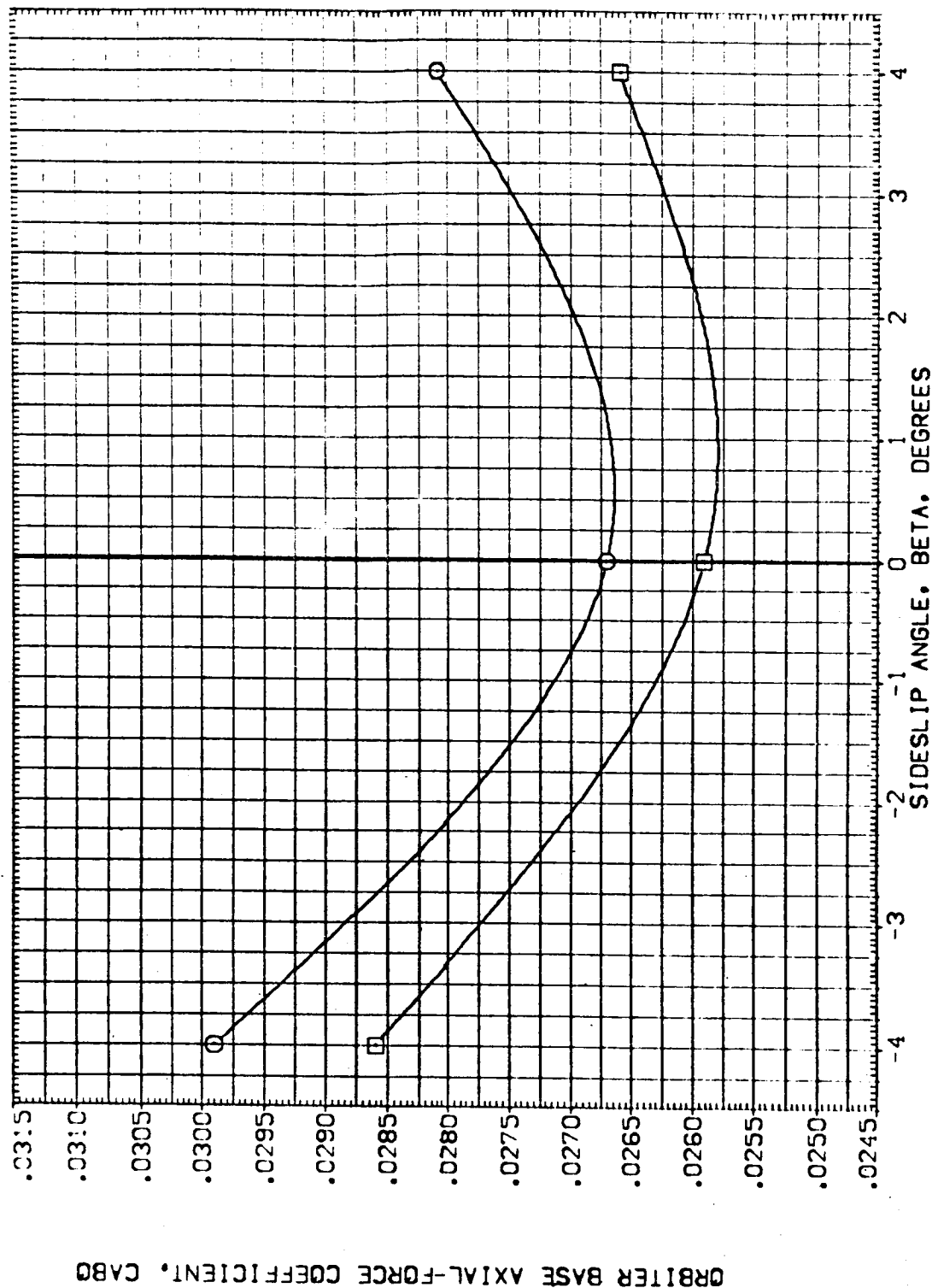
0000 59. FT.
3000 IN.

2690.0000	59. FT.
1290.3000	IN.
0000.0000	

	SQ.FT.	IN.
SREF	2690.0000	
LREF	1290.3000	

	SQ.FT.	IN.
SREF	2690.0000	
LREF	1290.3000	

SRF	2690.0000	50.FT.
REF	1290.3000 <th>IN.</th>	IN.



2 -1 0 1
SIDESLIP ANGLE, BETA, DEGREES

FIG. 45 EFFECT OF PLUMES - MACH=1.1 ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.0

$CA_{ALPHA} = .00$

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
(CEJ040)	○	ARC11-0141A19 OTS	SRB-OFF MPS-OFF	SREF	2690.0000 SQ.FT.
(CEJ044)		ARC11-0141A19 OTS	SRB-NOM MPS-OFF	LREF	1290.3000 IN.
				BREF	1290.3000 IN.
				XMRP	976.0000 IN.
				YMRP	.0000 IN.
				ZMRP	.0000 IN.
				SCALE	.0200

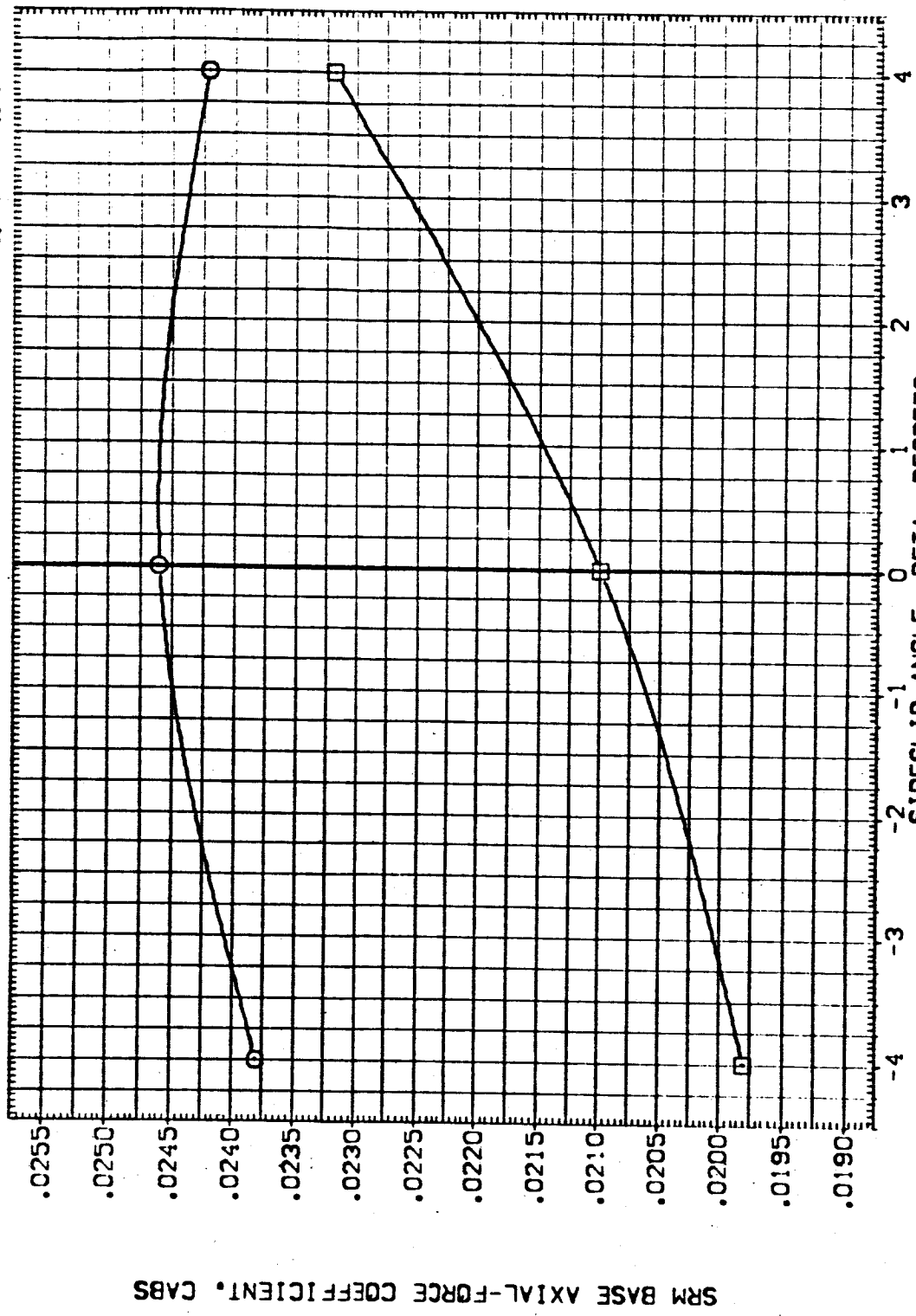


FIG. 45 EFFECT OF PLUMES - MACH=1.1 ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.0

- (AJ)ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-18	ELV-08	MACH	GIMBAL	SREF	SQ.FT.
[CE040]	ARC11-0141A19 01S	.000	.000	1.100	1.000	2690.0000	IN.
[CE044]	ARC11-0141A19 01S	.000	.000	1.100	1.000	1290.3000	IN.
						1290.3000	IN.
						976.0000	IN.
						.0000	IN.
						400.0000	IN.
						.0200	IN.

SCALE

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT. CABT

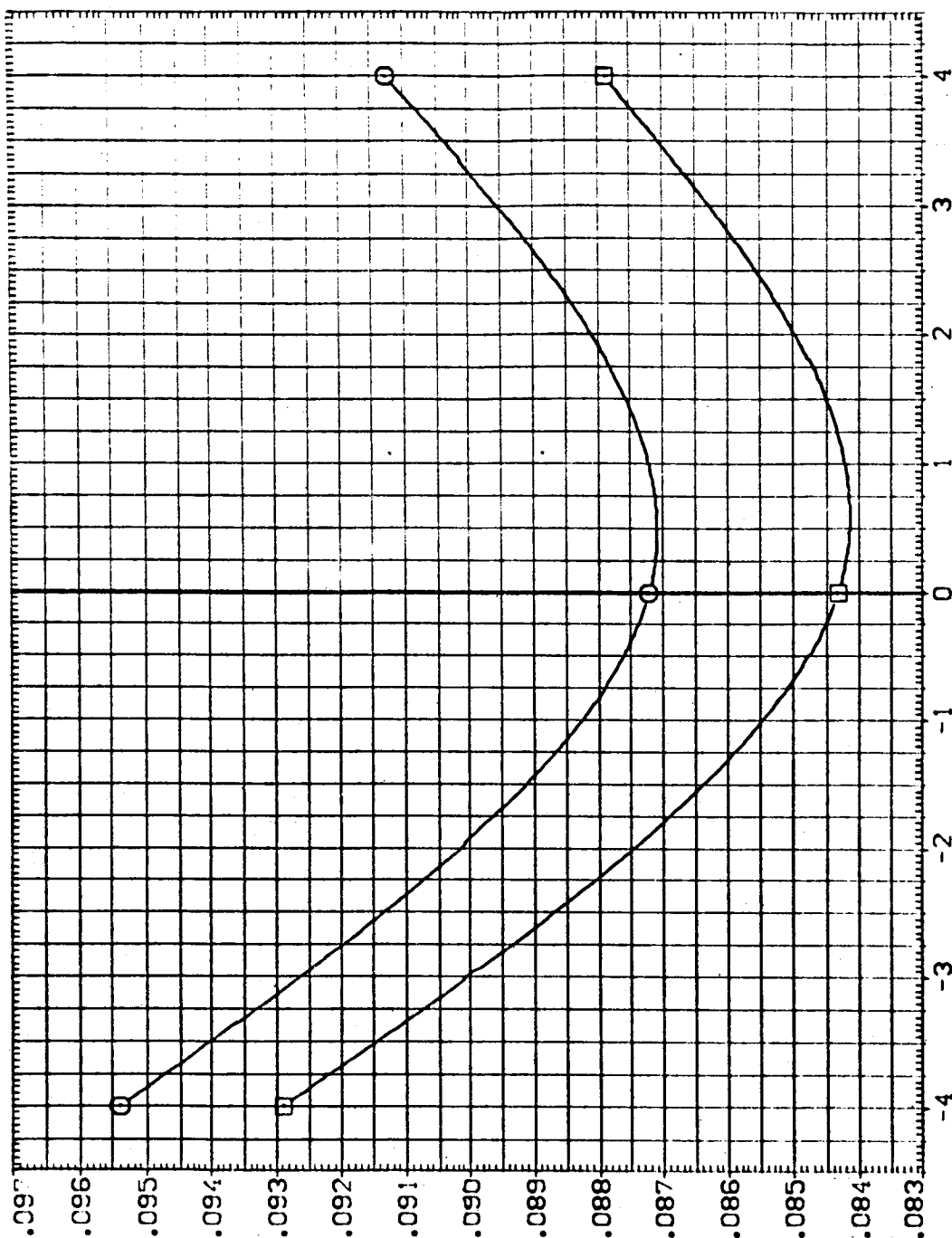


FIG. 45 EFFECT OF PLOMES - MACH=1.1 ELV-18=0.0 ELV-08=0.0 ALPHA=0.0

CALPHA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (SE-041) ○ ARC11-0:41A19 QTS SRB-OFF MPS-OFF
 (SE-045) □ ARC11-0:41A19 QTS SRB-NOM MPS-OFF

ELV-19 ELV-03 MACH GIMBAL
 .000 .000 1.250 1.000
 .000 .000 1.250 1.000

REFERENCE INFORMATION
 SREF 2690.0000 50.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

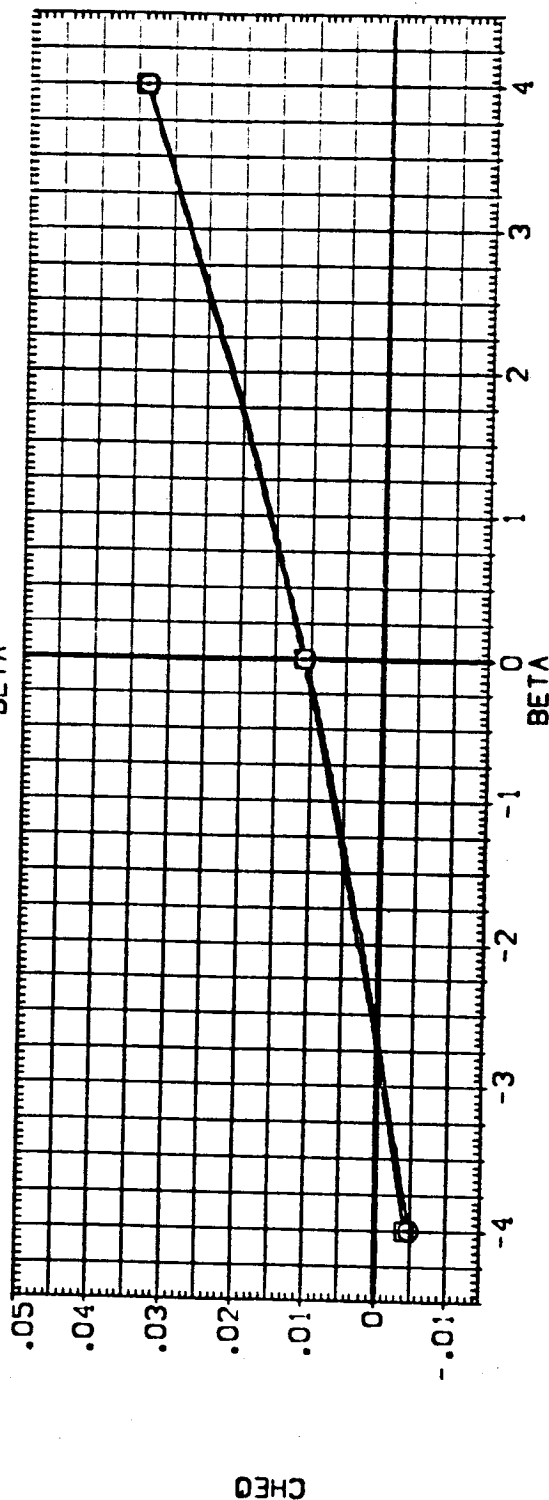
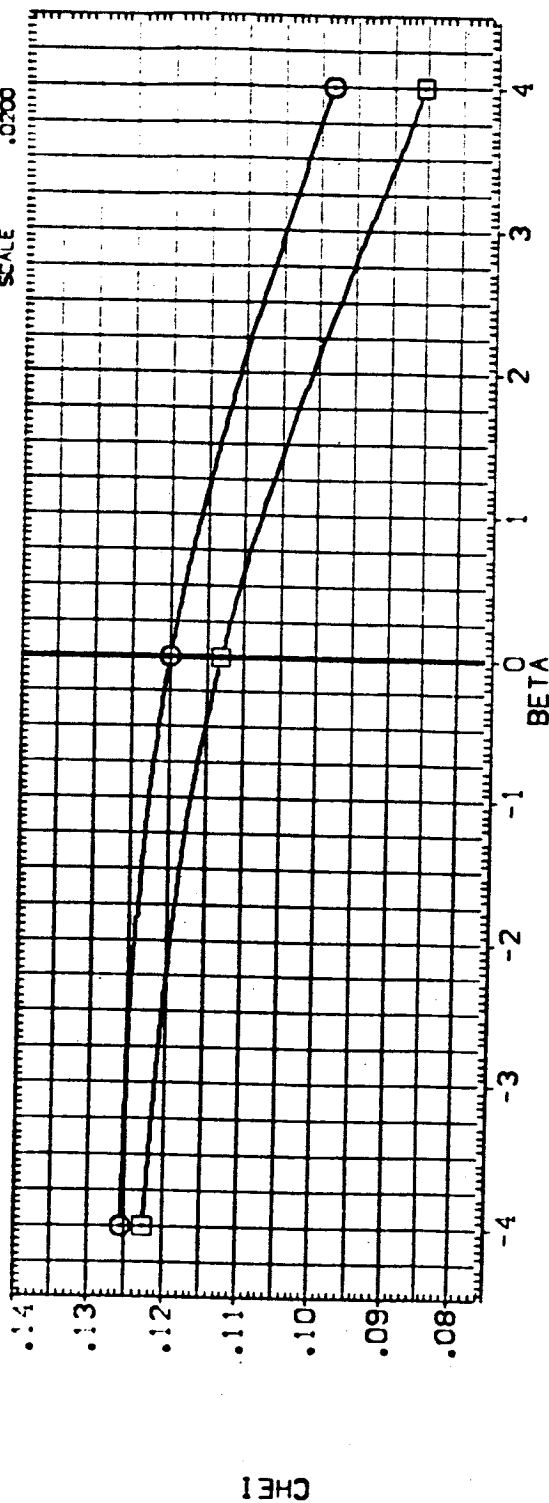


FIG. 46 EFFECT OF PLUMES - MACH=1.25 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

DATA SET SYMBOL: (CELC041) (CELC045) CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS SR8-OFF MPS-OFF ELV-IB ELV-OB MACH GIMBAL REFERENCE INFORMATION: SREF 2690.0000 SQ.FT. LREF 1290.3000 IN. BREF 1290.3000 IN. XT XMRP 976.0000 IN. YMRP 400.0000 IN. ZMRP 400.0000 IN. YT ZT SCALE .0200

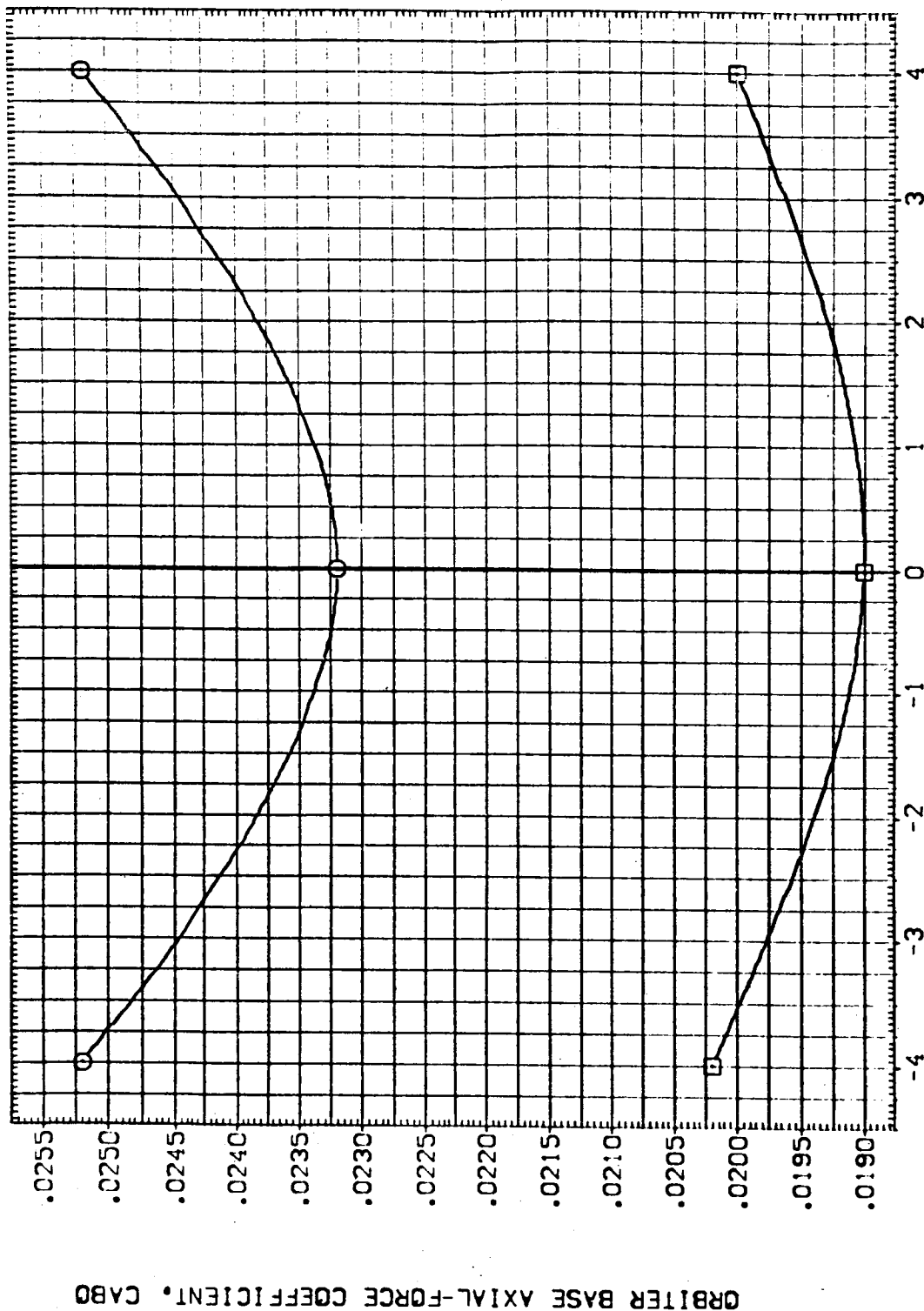


FIG. 46 EFFECT OF PLUMES - MACH=1.25 ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.0

(A) ALPHA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

ELV-IB	ELV-OB	MACH	GIMBAL	REFERENCE INFORMATION
0.000	0.000	1.250	1.000	SREF 2690.0000 SQ.FT.
0.000	0.000	1.250	1.000	LREF 1290.3000 IN.
				BREF 1290.3000 IN.
				XMRP 576.0000 IN. XT
				YMRP 400.0000 IN. YT
				ZMRP 400.0000 IN. ZT
				SCALE .0200

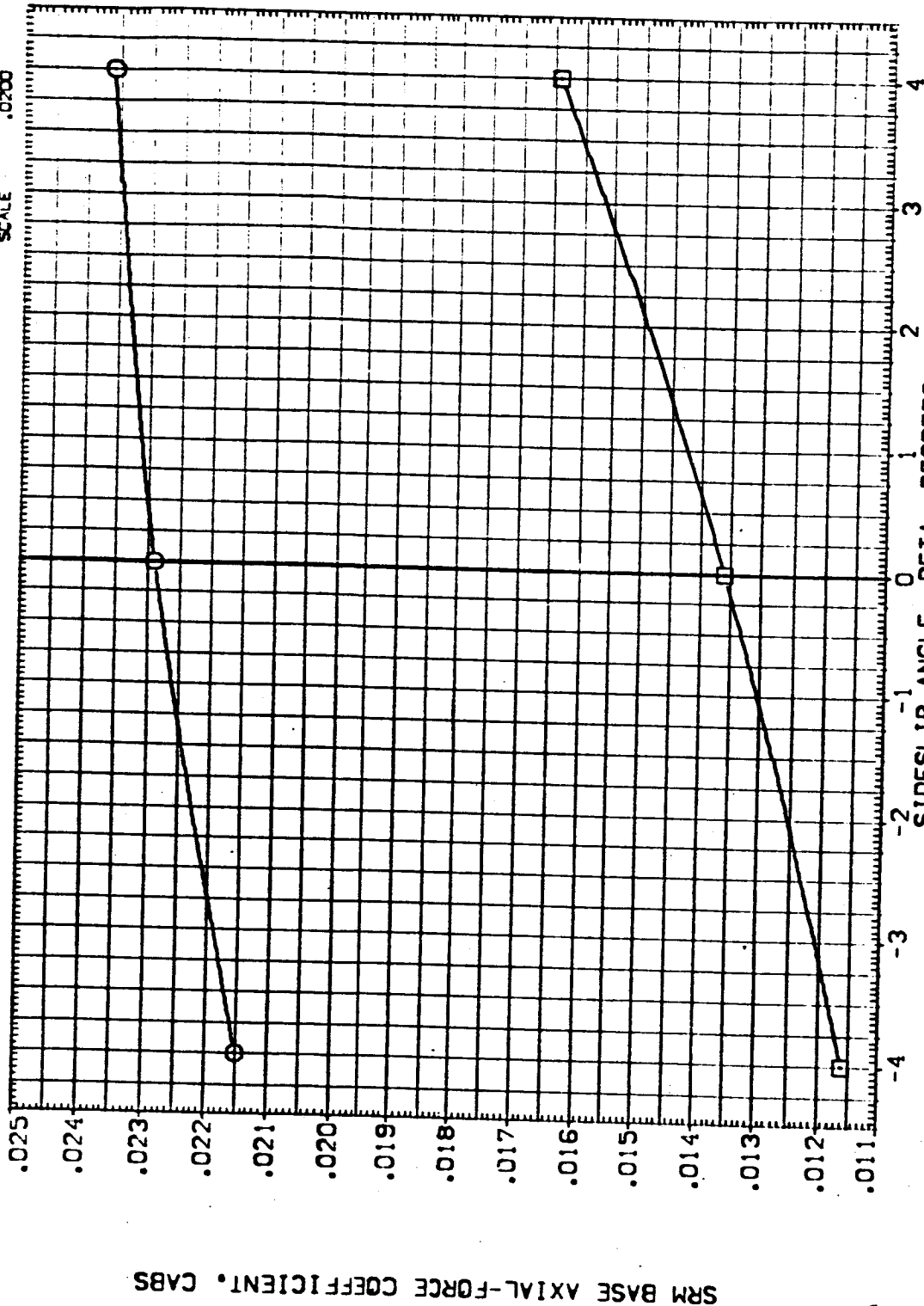


FIG. 46 EFFECT OF PLUMES - MACH=1.25 ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.0
CAJALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 {CEUC42} ○ ARC11-0141A19 OTS S2B-OFF MPS-OFF
 {CEUC46} ARC11-0141A19 OTS S2B-NOM MPS-OFF

ELV-1B ELV-08 MACH GIMBAL
 .000 .000 1.400 1.000
 .000 .000 1.400 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP 400.0000 IN.
 ZMRP 400.0000 IN.
 SCALE .0200

ORBITER BASE AXIAL-FORCE COEFFICIENT, C_{ABO}

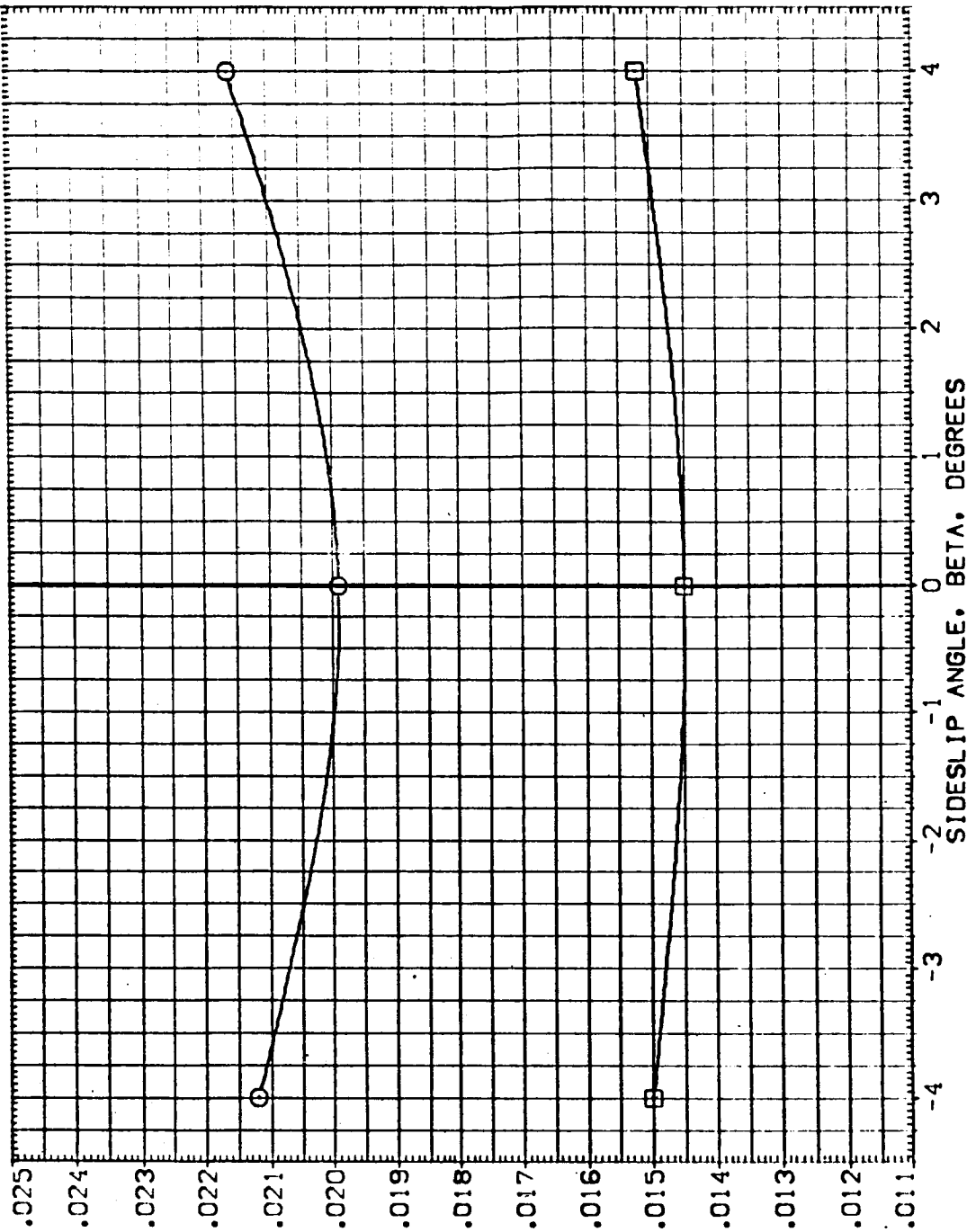
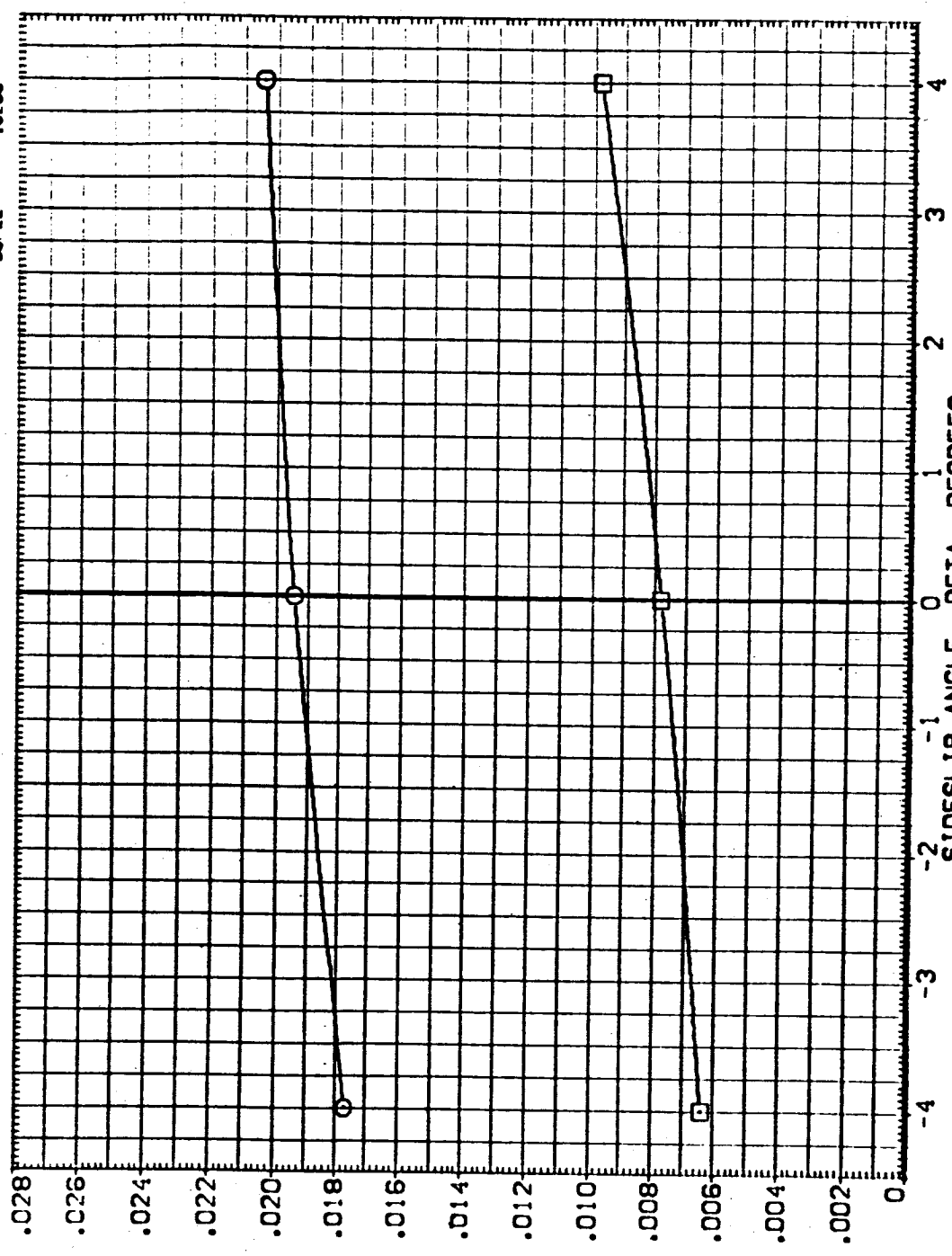


FIG. 47 EFFECT OF PLOMES - MACH=1.4 ELV-1B=0.0 ELV-08=0.0 ALPHA=0.0

CALPHA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GIMBAL	REFERENCE INFORMATION
(SEUC12)	ARC11-0141A19 015	.000	.000	1.400	1.000	SREF 2690.0000 SQ.FT.
(SEUC16)	ARC11-0141A19 015	.000	.000	1.400	1.000	LREF 1290.3000 IN.
						BREF 1290.3000 IN.
						XMRP 976.0000 IN. XT
						YMRP 400.0000 IN. YT
						ZMRP 400.0000 IN. ZT
						SCALE .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 47 EFFECT OF PLUMES - MACH=1.4 ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

(A) ALPHA = .00

DATA SET SYMBOL: (CELO42) (CELO46)
 CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS
 SRB-NOM MPS-OFF
 SRB-OFF MPS-OFF
 ELV-1B ELV-OB MACH GIMBAL
 .000 .000 1.400 1.000
 .000 .000 1.400 1.000
 REFERENCE INFORMATION:
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP 400.0000 IN.
 ZMRP 400.0000 IN.
 SCALE .0200

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

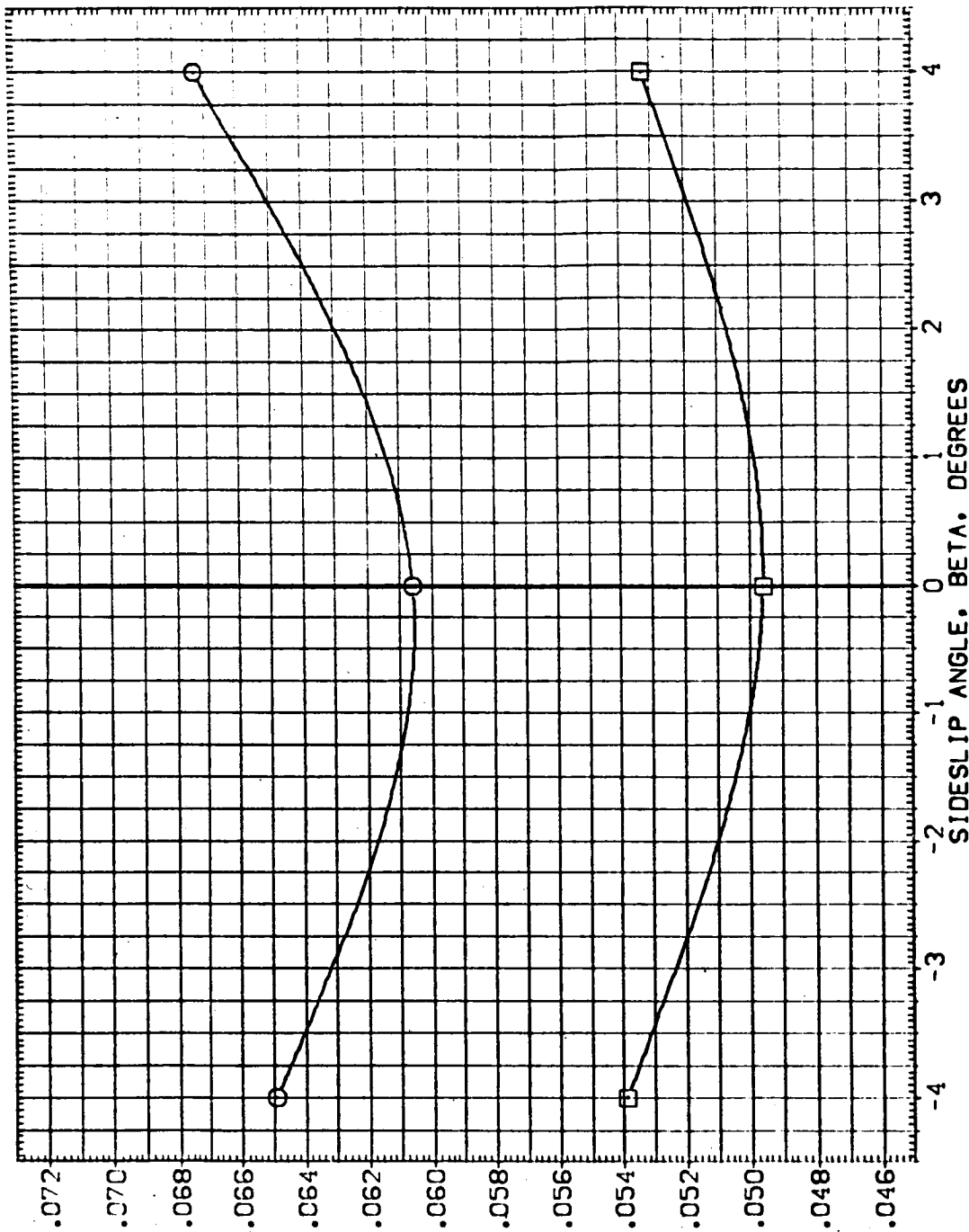


FIG. 47 EFFECT OF PLUMES - MACH=1.4 ELV-1B=0.0 ELV-OB=0.0 ALPHA=0.0

(A) ALPHA = .00



DATA SET SYMBOL: (B-017) (B-016) CONFIGURATION DESCRIPTION: ARC-0141A19 QTS SRB-0FF MPS-0FF SRB-NOM MPS-0FF

ELV-18	ELV-08	MACH	GIMBAL	REFERENCE INFORMATION
8.000	.000	1.400	1.000	SREF 2690.0000 SQ.FT.
8.000	.000	1.400	1.000	LREF 1290.3000 IN.
				BREF 1290.3000 IN.
				YMRP 576.0000 IN. XT
				ZMRP 400.0000 IN. YT
				SCALE .0200

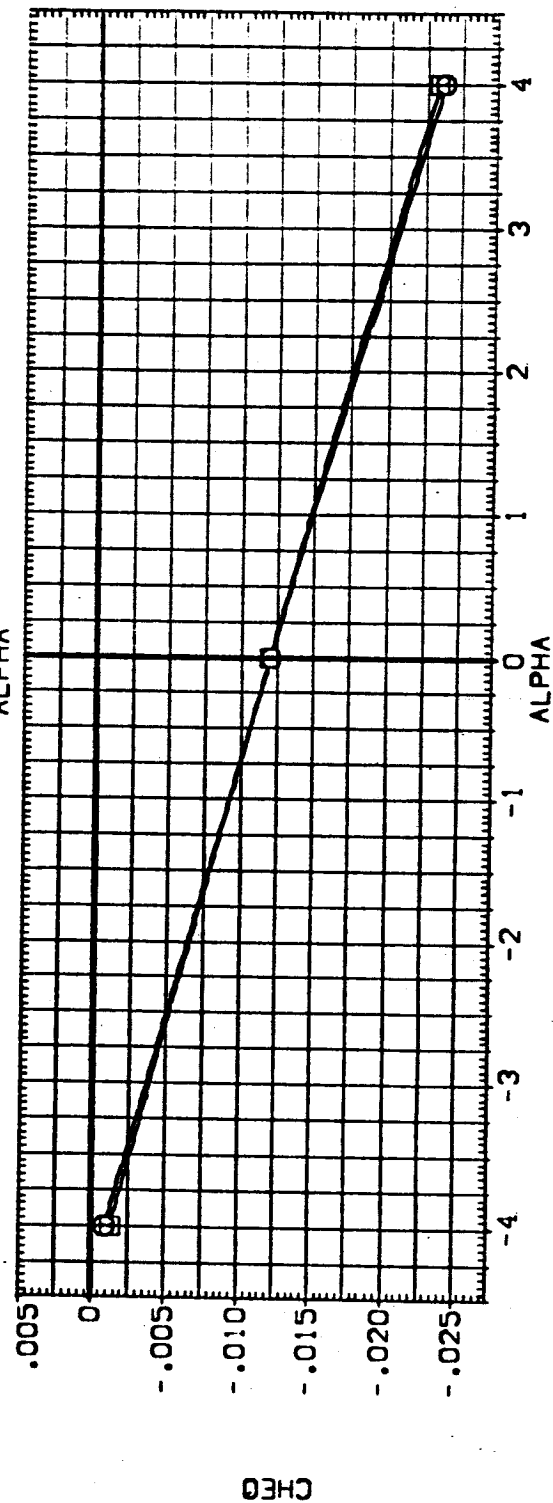
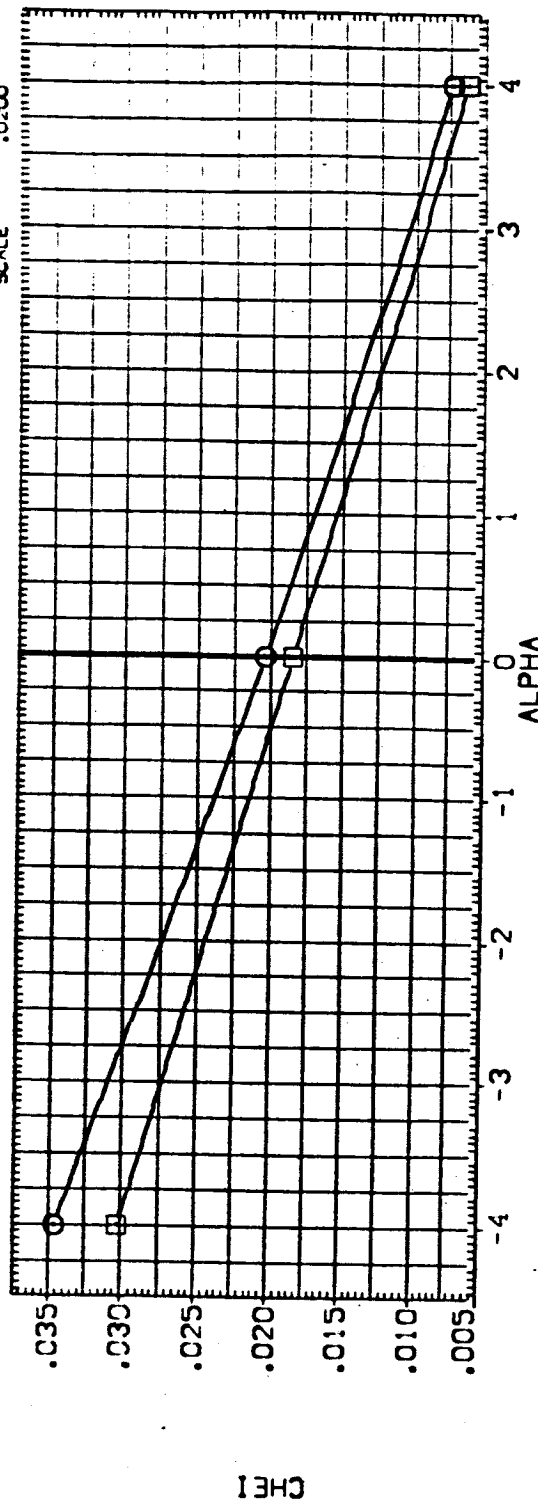


FIG. 48 EFFECT OF PLUMES - MACH=1.4 ELV-18=8.0 ELV-08=0.0 BETA=0.0
(A) BETA = .00

DATA SET SYMBOL: 01419 DTB
 [BELO47] 01419 DTB
 [BELO48] 01419 DTB

CONFIGURATION DESCRIPTION
 SRB-OFF MPS-OFF
 SRB-NOM MPS-OFF

ELV-IB 8.000
 ELV-OB 8.000
 MACH 1.400
 GIMBAL 1.000

REFERENCE INFORMATION
 SREF 2690.0000
 LREF 1250.3000
 BREF 1250.3000
 XMRP 976.0000
 YMRP 0.0000
 ZMRP 400.0000
 IN: XT
 IN: YT
 IN: ZT
 SCALE 0.000

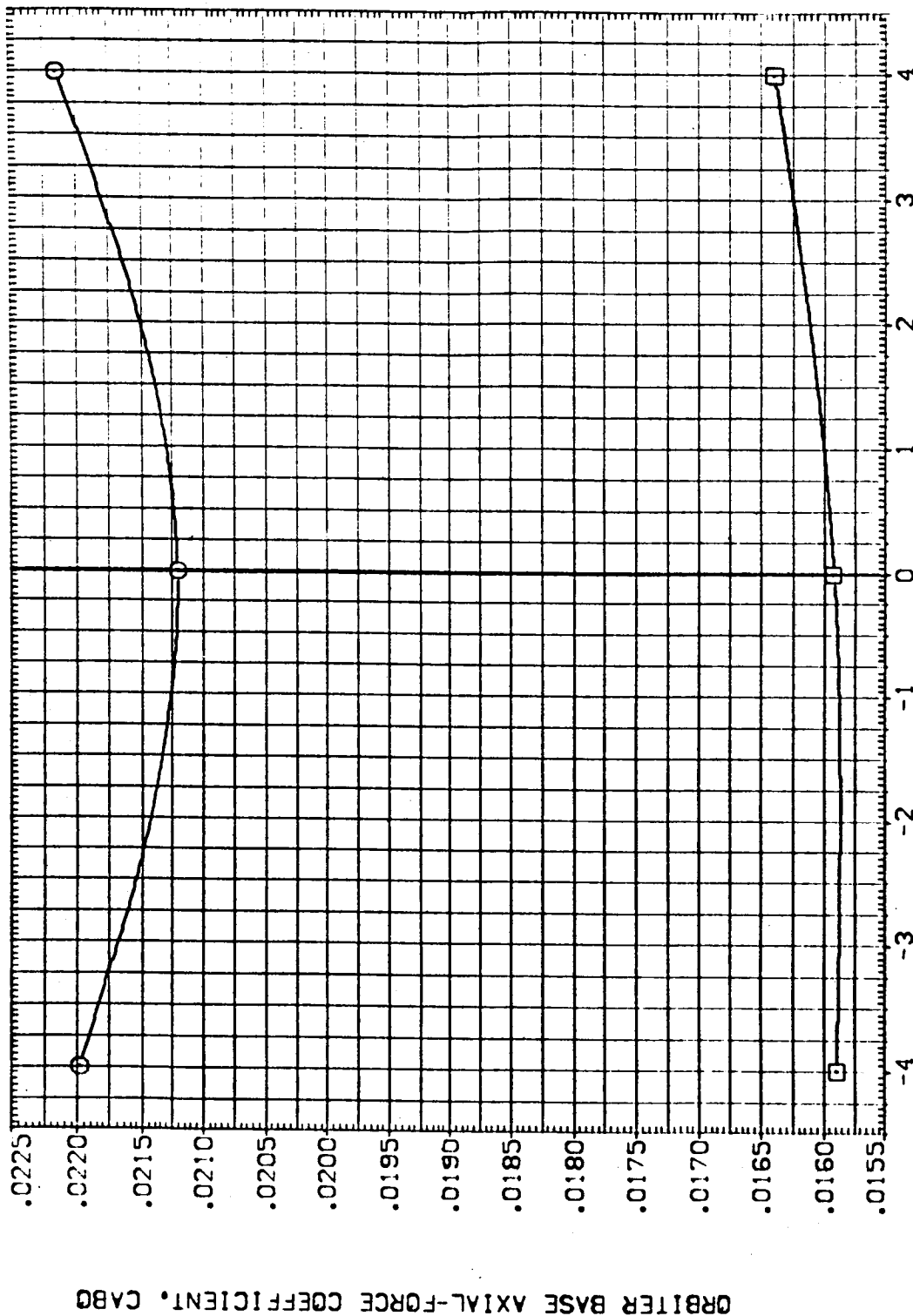
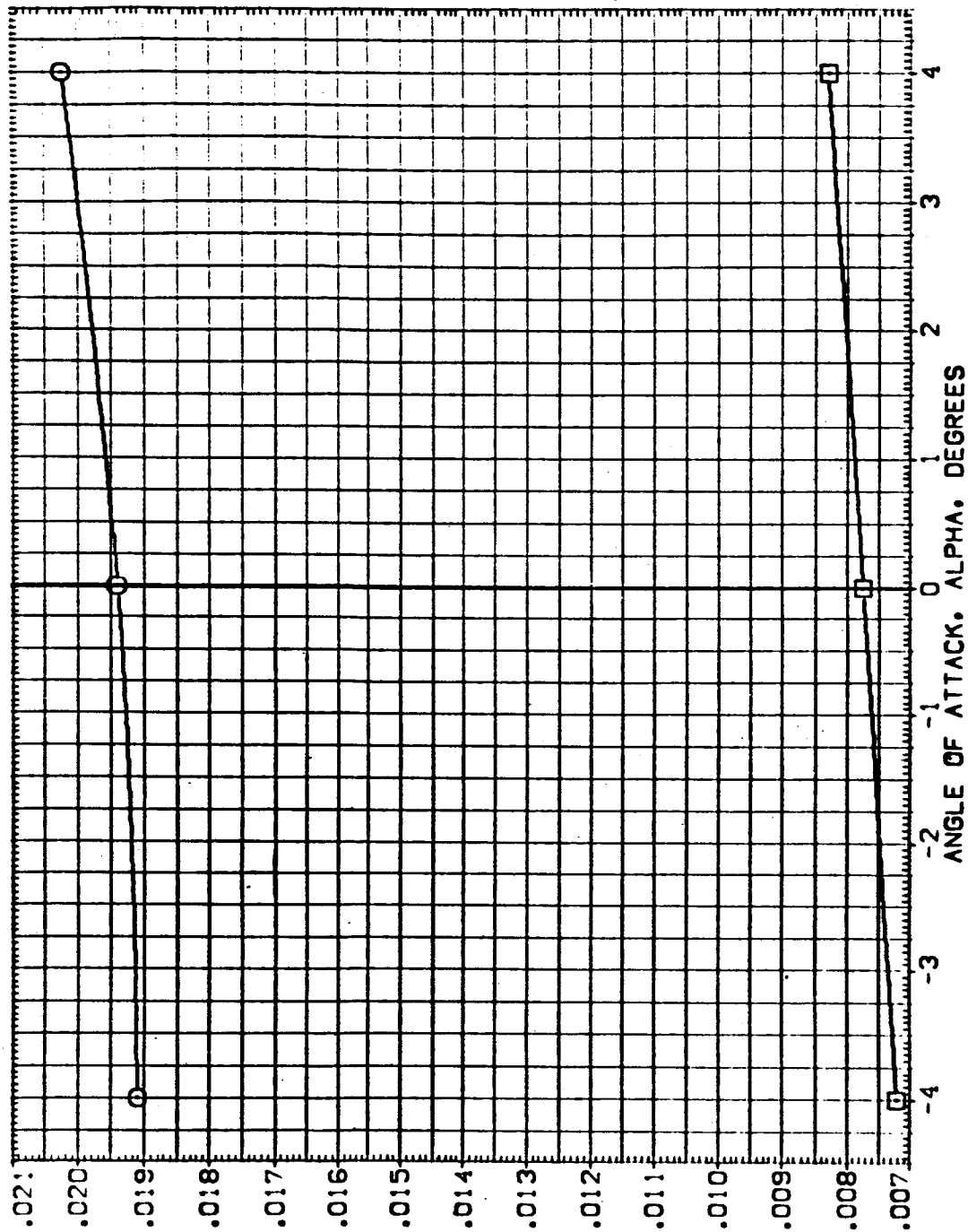


FIG. 48 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=0.0 BETA=0.0

(A)BETA = .00

DATA SET: SYMOL CONFIGURATION DESCRIPTION: REFERENCE INFORMATION

SYMOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GIMBAL	SRF	SRF	SRF
0	ARC:11-0141A19 OTS	8.000	.000	1.400	1.000	2690.0000	2690.0000	2690.0000
1	ARC:11-0141A19 OTS	8.000	.000	1.400	1.000	1290.3000	1290.3000	1290.3000
						1290.3000	1290.3000	1290.3000
						576.0000	576.0000	576.0000
						400.0000	400.0000	400.0000
						SCALE		



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 48 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=0.0 BETA=0.0

(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (CE-047) O ARC11-0141A19 0'S SRB-OFF MPS-OFF
 (CE-048) ARC11-0141A19 0'S SRB-NOM MPS-OFF

ELV-1B ELV-0B MACH GIMBAL
 8.000 .000 1.400 1.000
 8.000 .000 1.400 1.000

REFERENCE INFORMATION
 SREF 2890.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

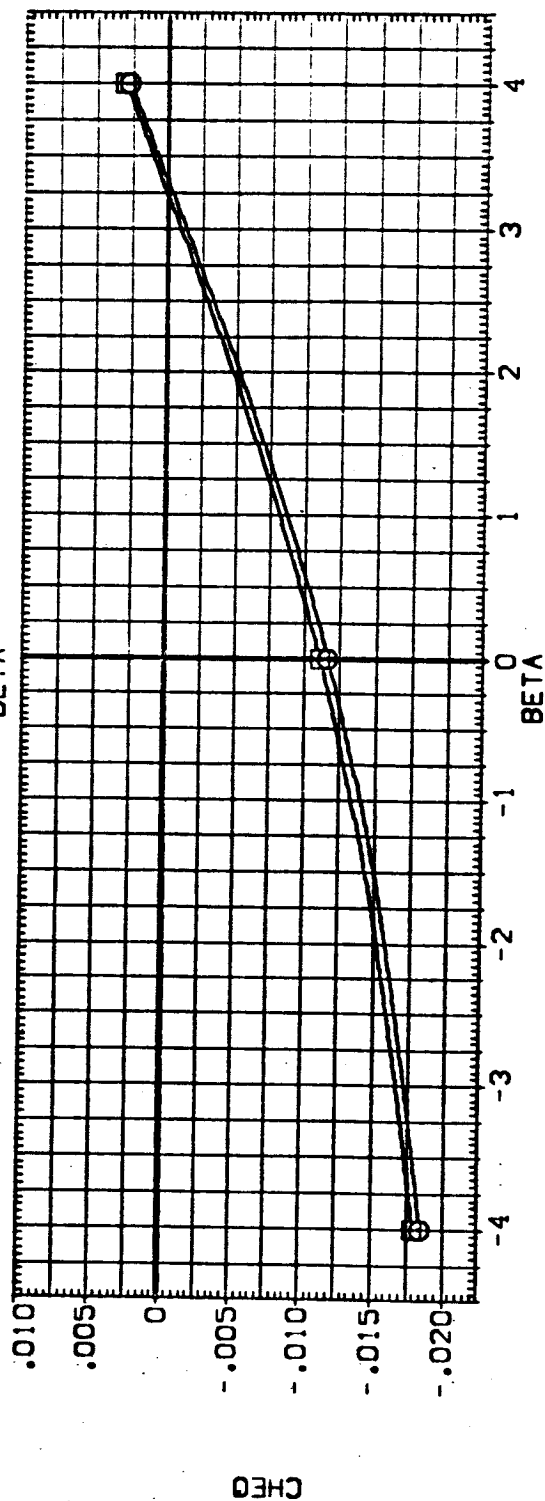
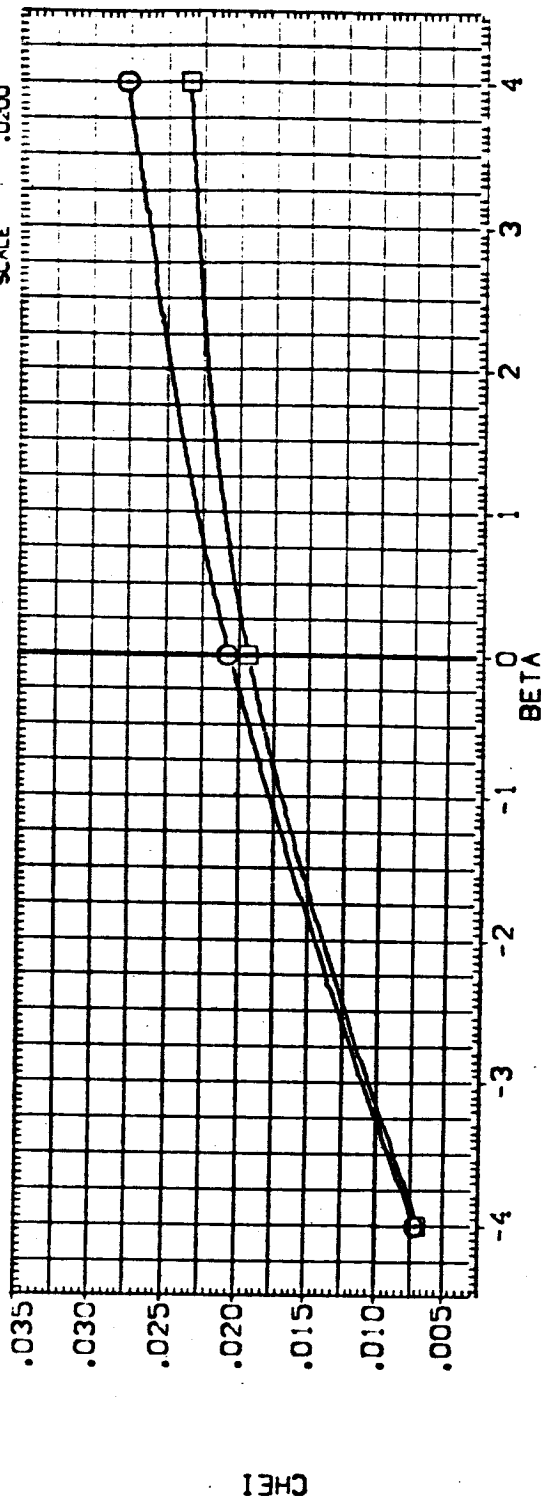


FIG. 49 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=0.0 ALPHA=0.0

CAJALPHA = .00

DATA SET SYMBOL: CONFIGURATION DESCRIPTION: REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	GIMBAL	REFERENCE INFORMATION
CEJ047	ARC11-0141A19 OTS	8.000	.000	1.400	1.000	SREF 2690.0000
CEJ048	ARC11-0141A19 OTS	8.000	.000	1.400	1.000	LREF 1290.3000
						BREF 1290.3000
						YMRP 576.0000
						ZMRP 400.0000
						SCALE .0200

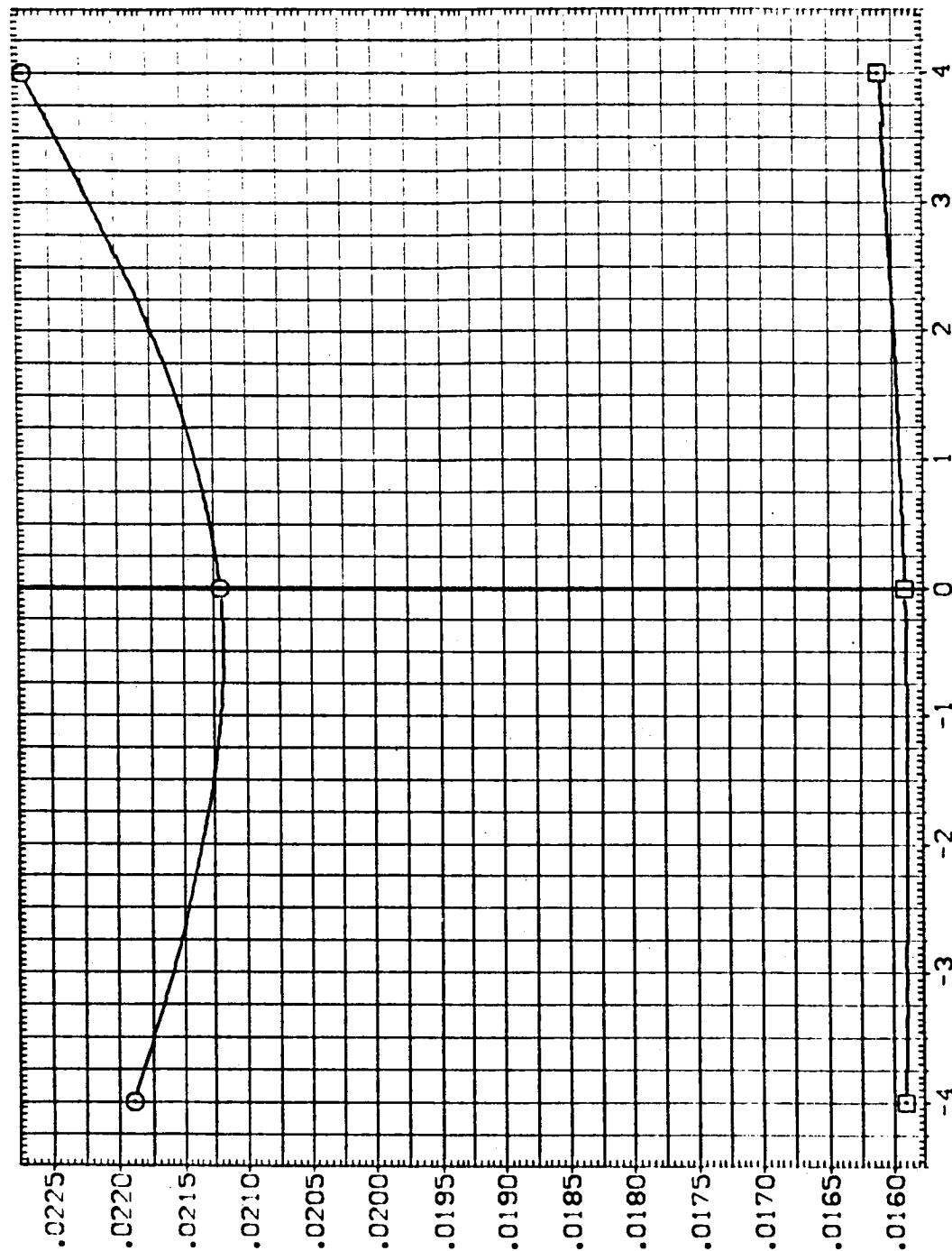
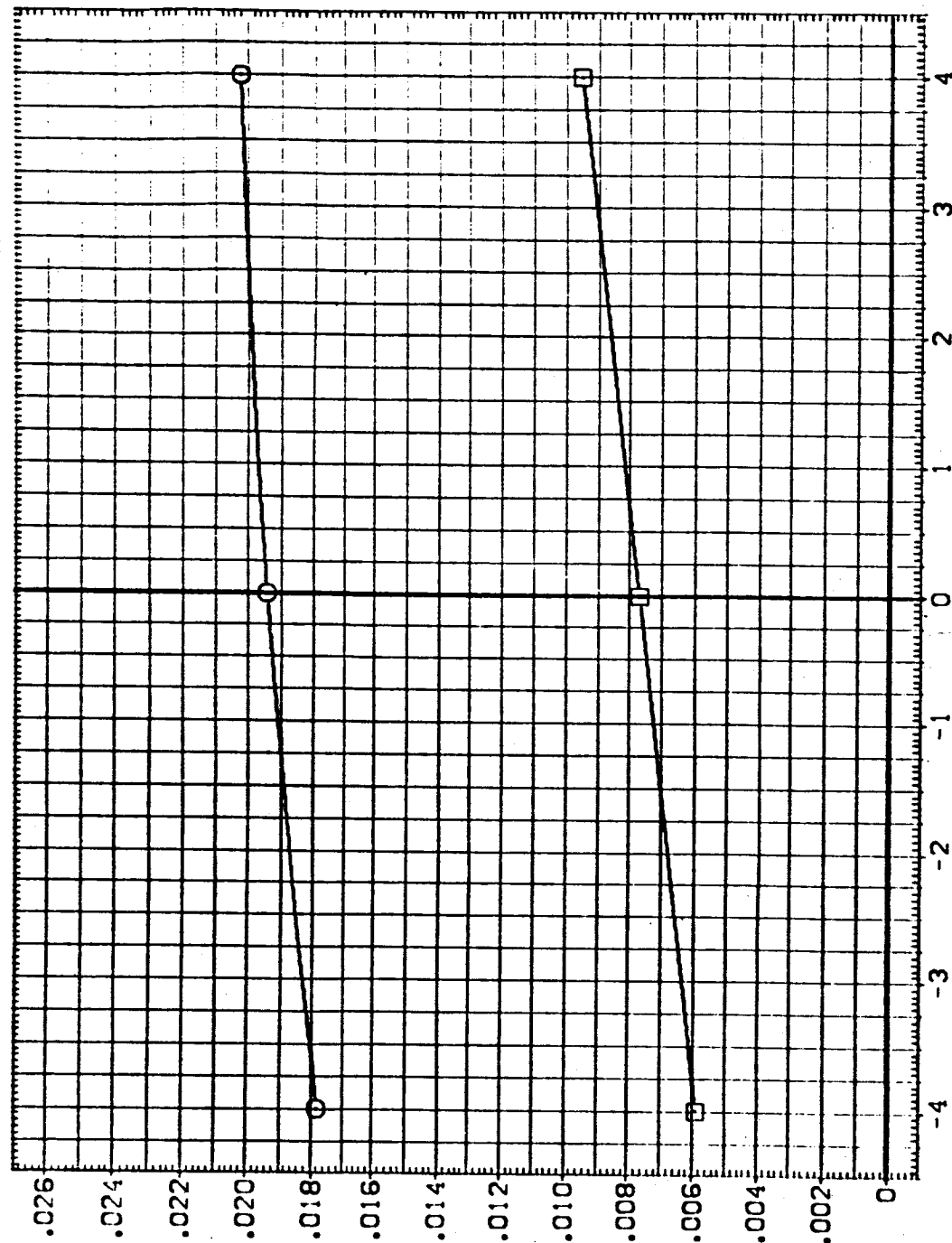


FIG. 49 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=0.0 ALPHA=0.0

(A) ALPHA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	MACH	GIMBAL	REFERENCE INFORMATION
[CEC47]	ARC11-0141A19 DTS	8.000	.000	1.400	1.000	SREF 2690.0000 SQ.FT.
[CEC48]	ARC11-0141A19 DTS	8.000	.000	1.400	1.000	LREF 1290.3000 IN.
						BREF 1290.3000 IN.
						XT 576.0000 IN.
						YMRP .0000 IN.
						ZMRP .0000 IN.
						SCALE 400.0000

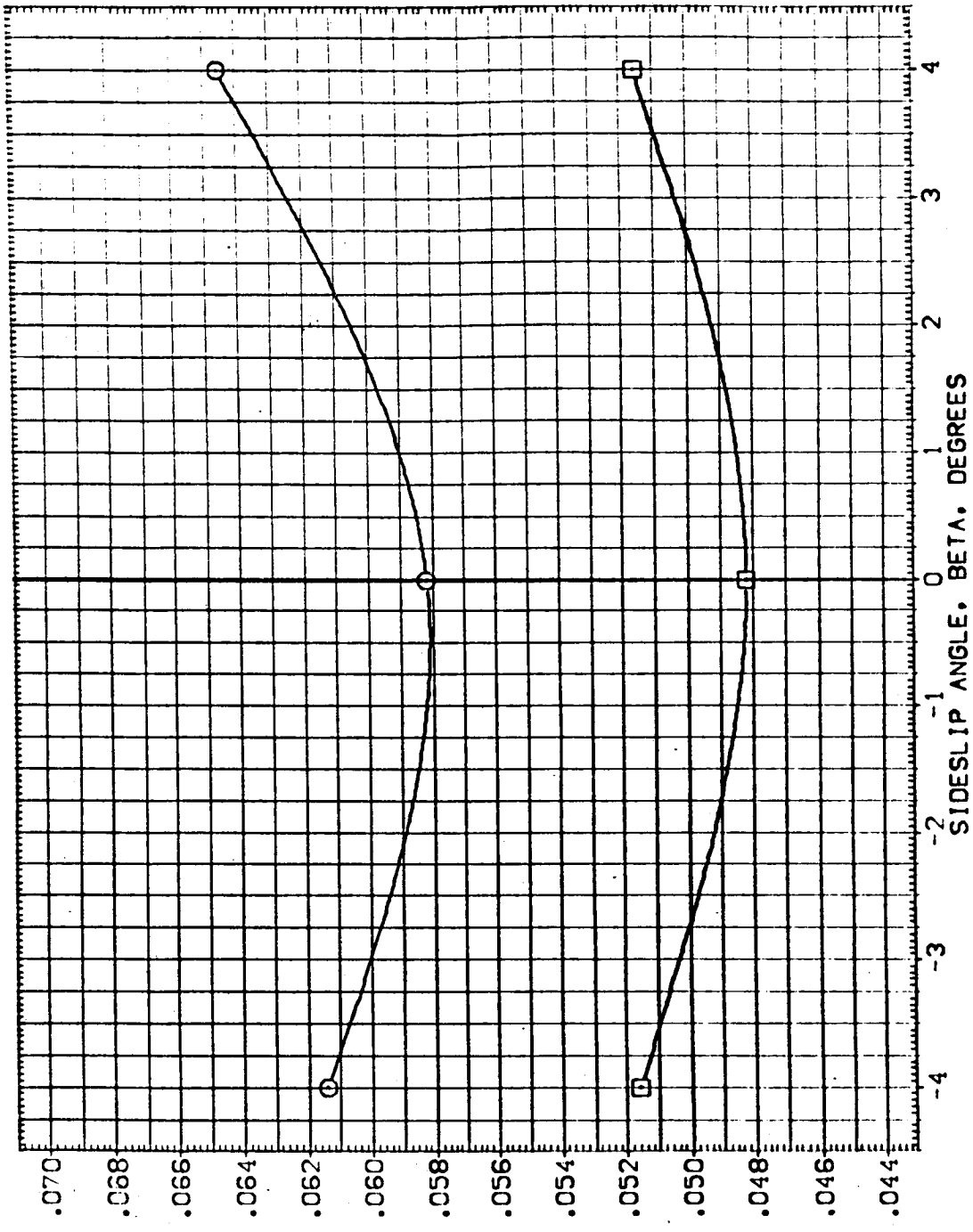


SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 49 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=0.0 ALPHA=0.0

(A)AID-4 = 00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-18	ELV-08	MACH	GIMBAL	REFERENCE INFORMATION
(CELO47)	ARC11-0141A19 DTS	8.000	.000	1.400	1.000	SREF 2650.0000 SQ.FT.
(CELO48)	ARC11-0141A19 DTS	8.000	.000	1.400	1.000	LREF 1290.3000 IN.
						BREF 1290.3000 IN.
						XMRP 976.0000 IN. XT
						YMRP .0000 IN. YT
						ZMRP 400.0000 IN. ZT
						SCALE .0200



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 49 EFFECT OF PLUMES - MACH=1.4 ELV-18=8.0 ELV-08=0.0 ALPHA=0.0

CALPHA = .00

DATA SET SYMBOL: 01419 OTS
 CONFIGURATION DESCRIPTION: SRS-OFF MPS-OFF
 SRS-NOM MPS-OFF

ELV-IB 8.000 ELV-OB 4.000 MACH .900
 GIMBAL 1.000 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE 400.0000 .0200

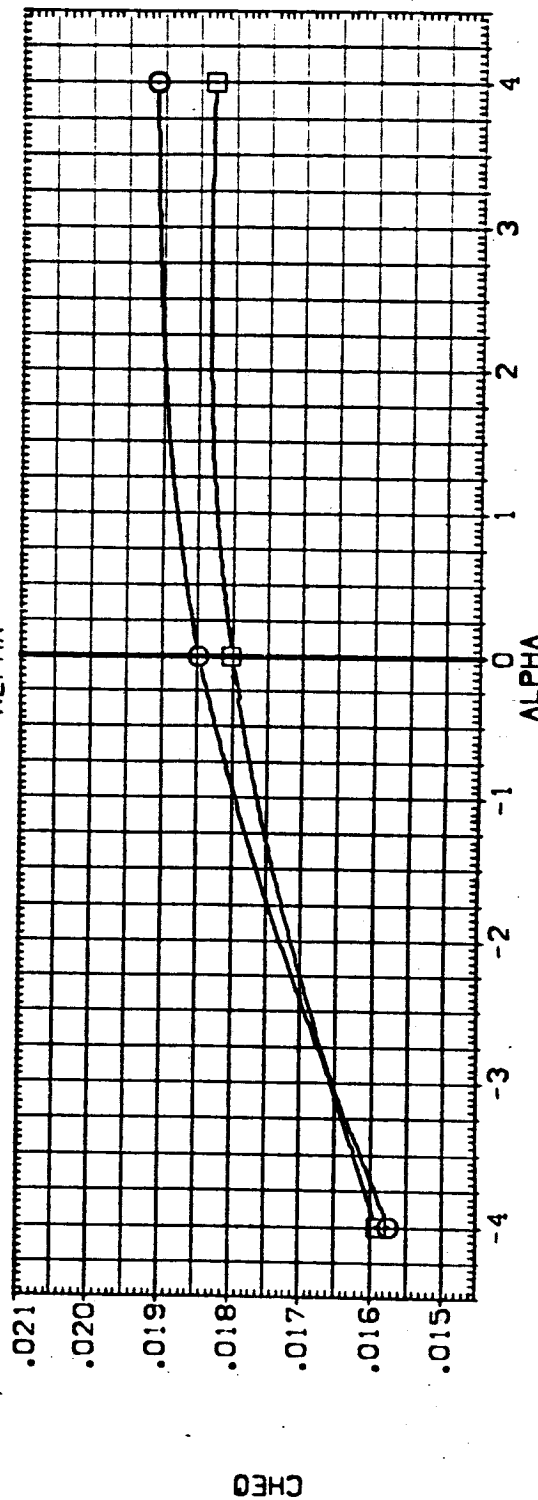
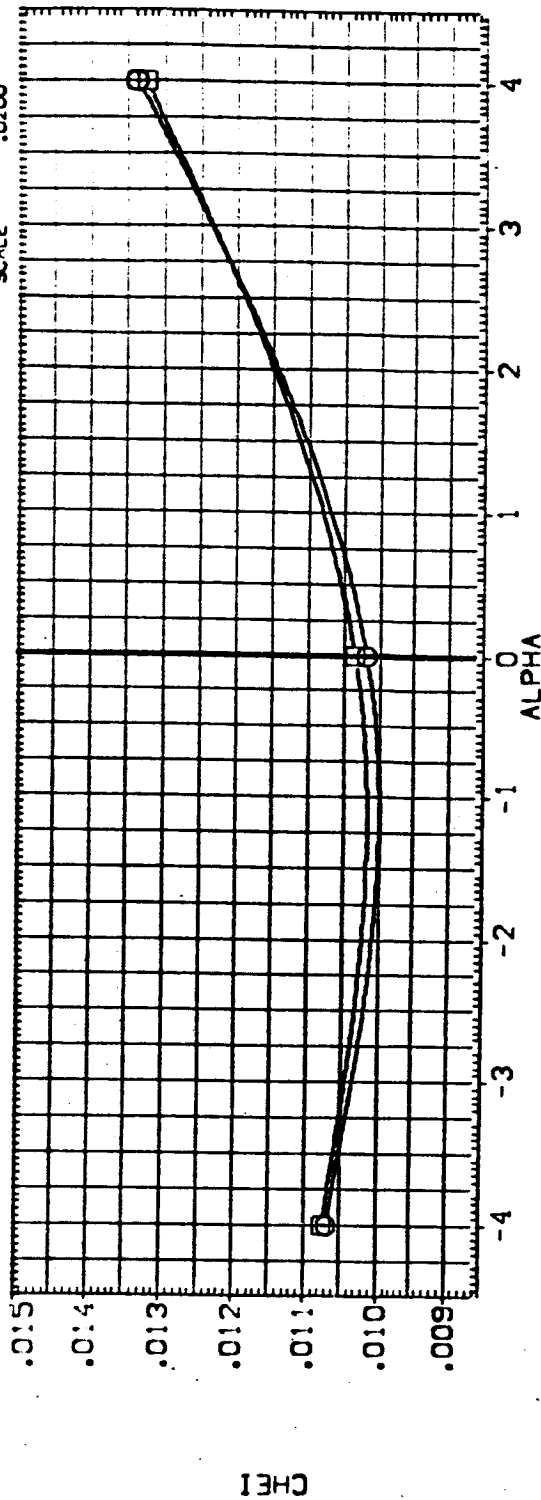


FIG. 50 EFFECT OF PLUMES - MACH=0.9 ELV-IB=8.0 ELV-OB=4.0 BETA=0.0

(A) BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(3) CAS9) O ARC11-0:4:1A:9 QTS SR8-OF MPS-OF

(3) CAS3) ARC11-0:4:1A:9 QTS SR8-NOM MPS-OF

ELV-IB ELV-OB MACH GIMBAL REFERENCE INFORMATION

8.000 4.000 .900 1.000 SREF 2690.0000 50. FT.

8.000 4.000 .900 1.000 LREF 1290.3000 IN.

8.000 4.000 .900 1.000 BREF 1290.3000 IN.

XT YMRP 976.0000 IN. XT

YMRP 400.0000 IN. YT

ZMRP 400.0000 IN. ZT

SCALE .0200

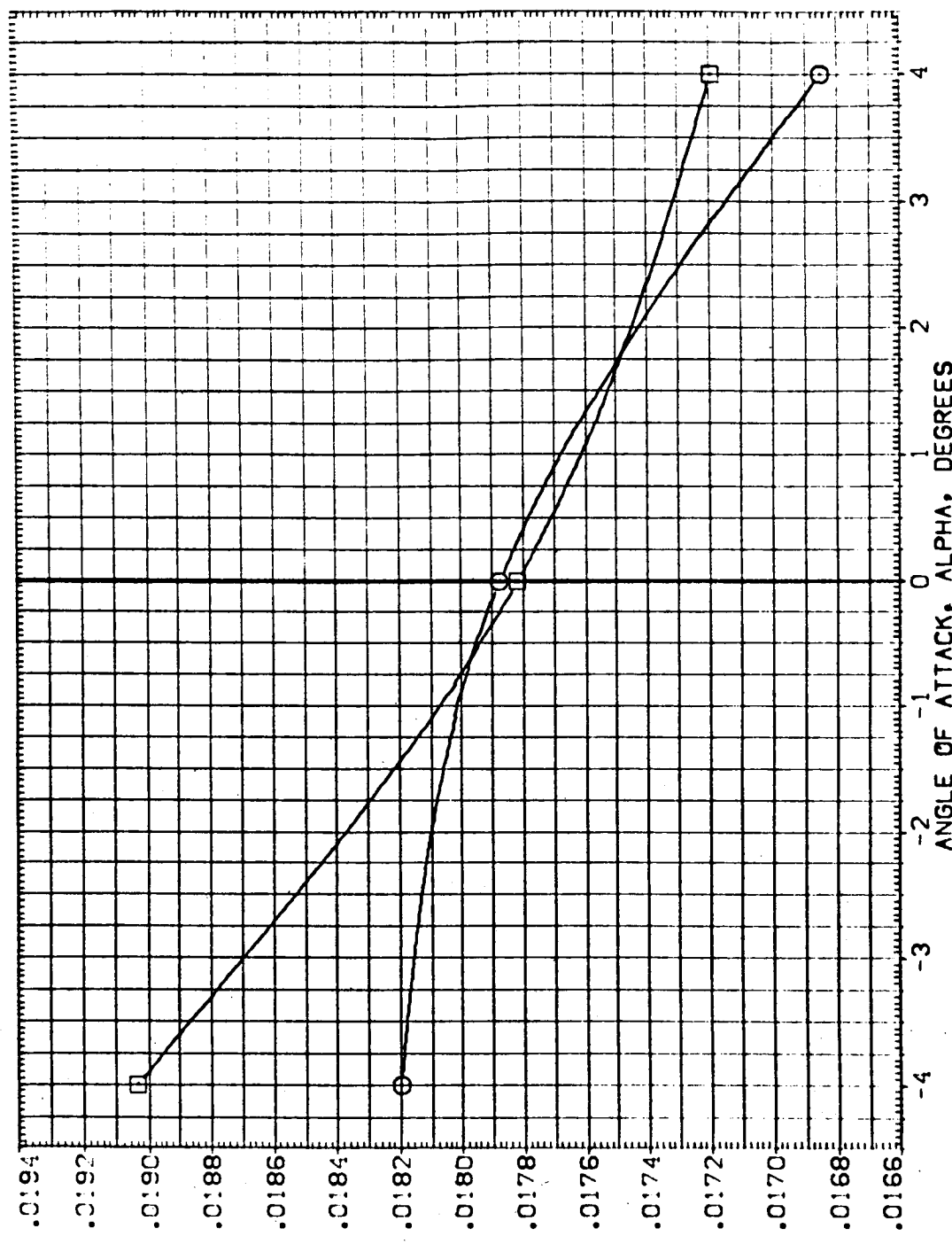


FIG. 50 EFFECT OF PLUMES - MACH=0.9 ELV-IB=8.0 ELV-OB=4.0 BETA=0.0

(A) BETA = .00

DATA SET SYMBOL: 01419 OTS
 CONFIGURATION DESCRIPTION: SRB-OFF MPS-OFF
 SRB-ON MPS-OFF
 REFERENCE INFORMATION:
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRD 576.0000 IN. XT
 YMRD .0000 IN. YT
 ZMRD 400.0000 IN. ZT
 SCALE .0200

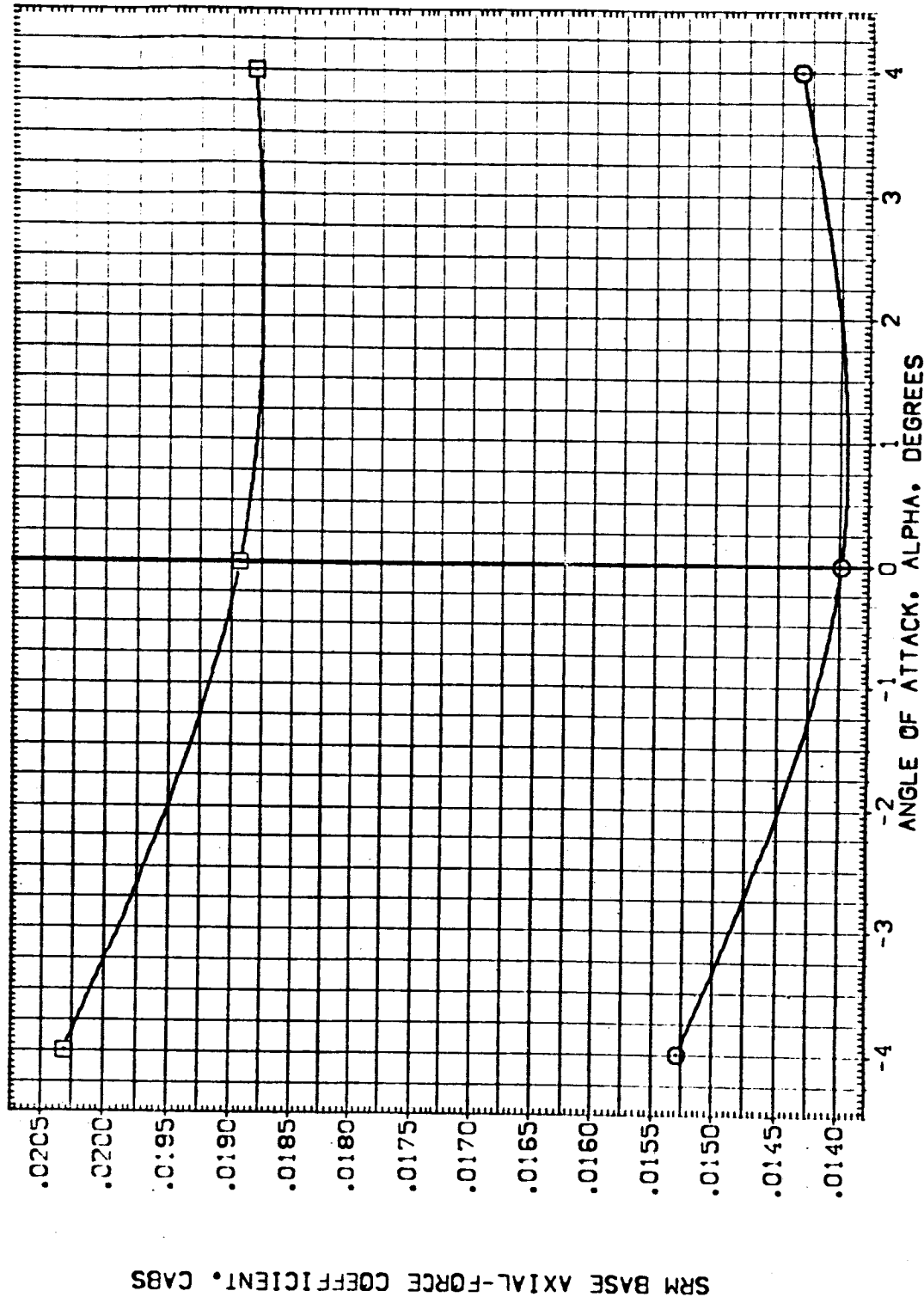


FIG. 50 EFFECT OF PUMES - MACH=0.9 ELV-OB=8.0 ELV-OB=4.0 BETA=0.0

CABETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-18	ELV-08	MACH	GIMBAL	SREF	2690.0000	50.FT.
(3) 049	ARC11-0141A19 OTS	8.000	4.000	.900	1.000	LREF	1290.3000	N.
(3) 053	ARC11-0141A19 OTS	8.000	4.000	.900	1.000	BREF	1290.3000	N.
						XREF	976.0000	N.
						YREF	.0000	N.
						ZREF	400.0000	N.
						SCALE	.0200	ZT

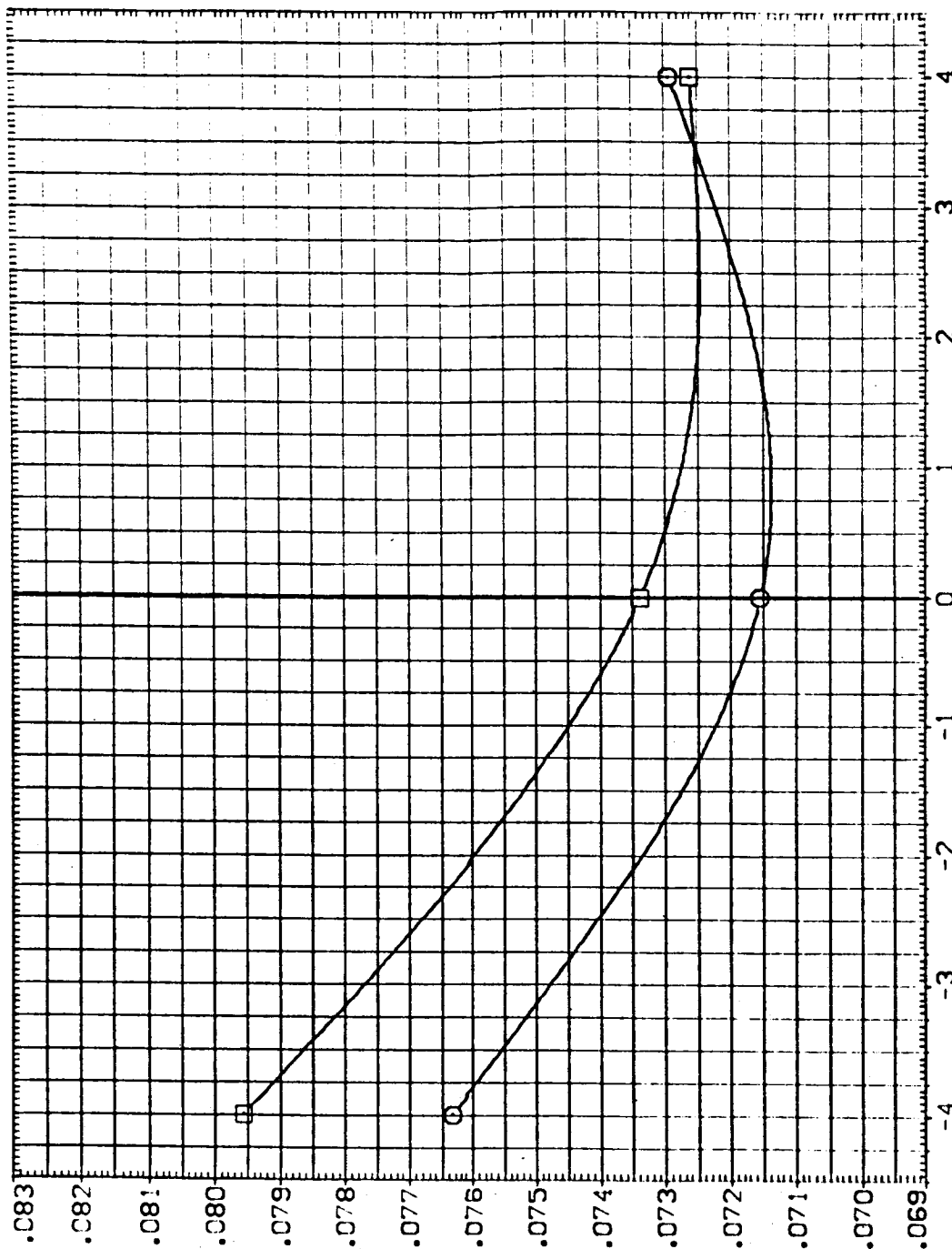


FIG. 50 EFFECT OF PLOMES - MACH=0.9 ELV-18=8.0 ELV-08=4.0 BETA=0.0

(A) BETA = .00



DATA SET SYMBOL: \bigcirc (3,050) \square (3,054)

CONFIGURATION DESCRIPTION: SRB-ON: 0.41A19 OTS SRB-OFF: 0.41A19 OTS

REFERENCE INFORMATION:

SRF	ELV-OB	MACH	GIMBAL	SRF	ELV-OB	MACH	GIMBAL	SRF	ELV-OB	MACH	GIMBAL	SRF	ELV-OB	MACH	GIMBAL	SRF	ELV-OB	MACH	GIMBAL
2650.0000	4.000	1.100	1.000	2650.0000	4.000	1.100	1.000	2650.0000	4.000	1.100	1.000	2650.0000	4.000	1.100	1.000	2650.0000	4.000	1.100	1.000
1250.3000	4.000	1.100	1.000	1250.3000	4.000	1.100	1.000	1250.3000	4.000	1.100	1.000	1250.3000	4.000	1.100	1.000	1250.3000	4.000	1.100	1.000
976.0000	4.000	1.100	1.000	976.0000	4.000	1.100	1.000	976.0000	4.000	1.100	1.000	976.0000	4.000	1.100	1.000	976.0000	4.000	1.100	1.000
400.0000	4.000	1.100	1.000	400.0000	4.000	1.100	1.000	400.0000	4.000	1.100	1.000	400.0000	4.000	1.100	1.000	400.0000	4.000	1.100	1.000
0.0000	4.000	1.100	1.000	0.0000	4.000	1.100	1.000	0.0000	4.000	1.100	1.000	0.0000	4.000	1.100	1.000	0.0000	4.000	1.100	1.000

SCALE: 0.000

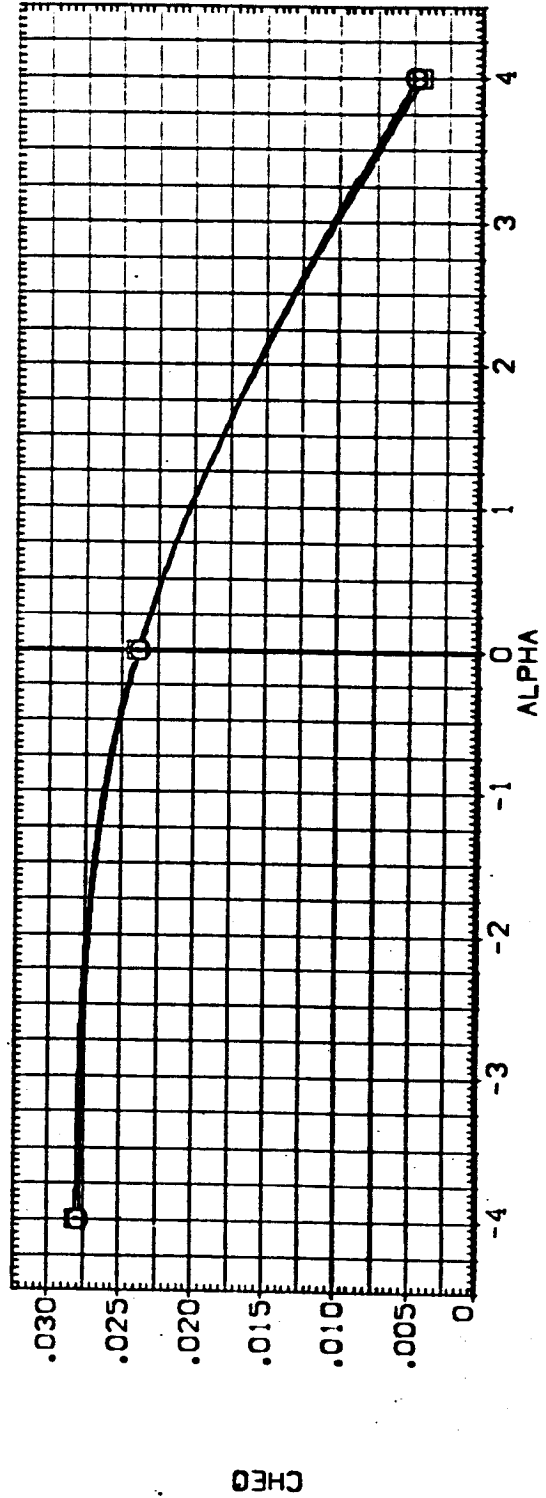
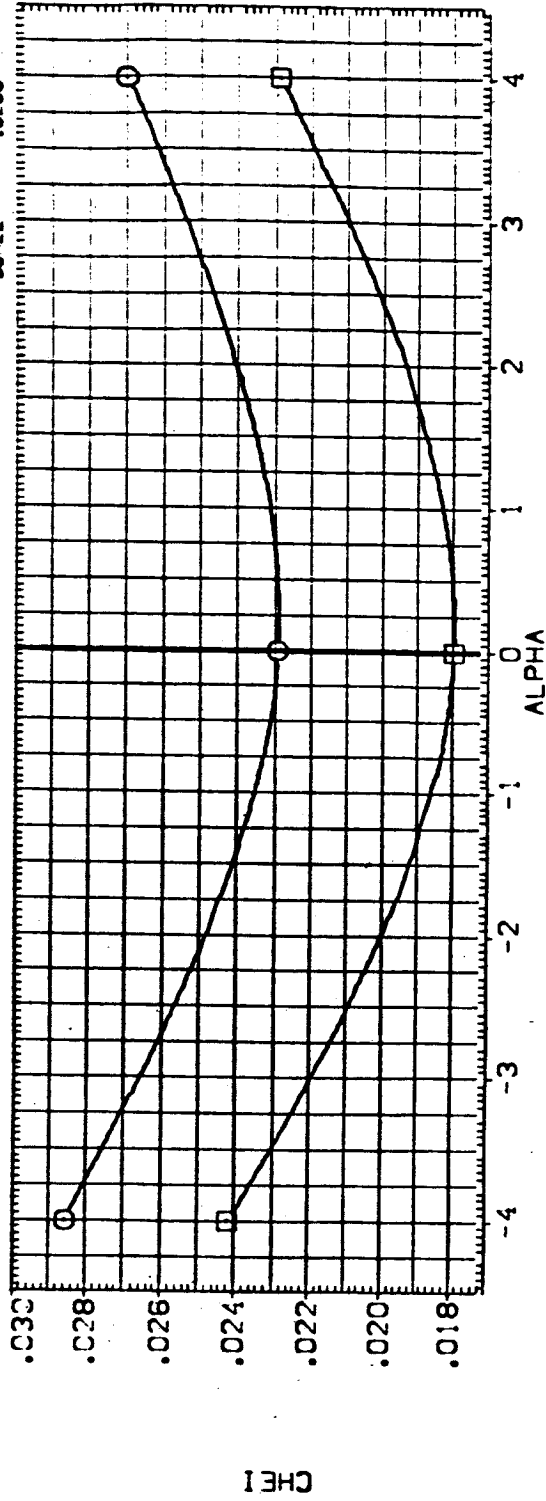
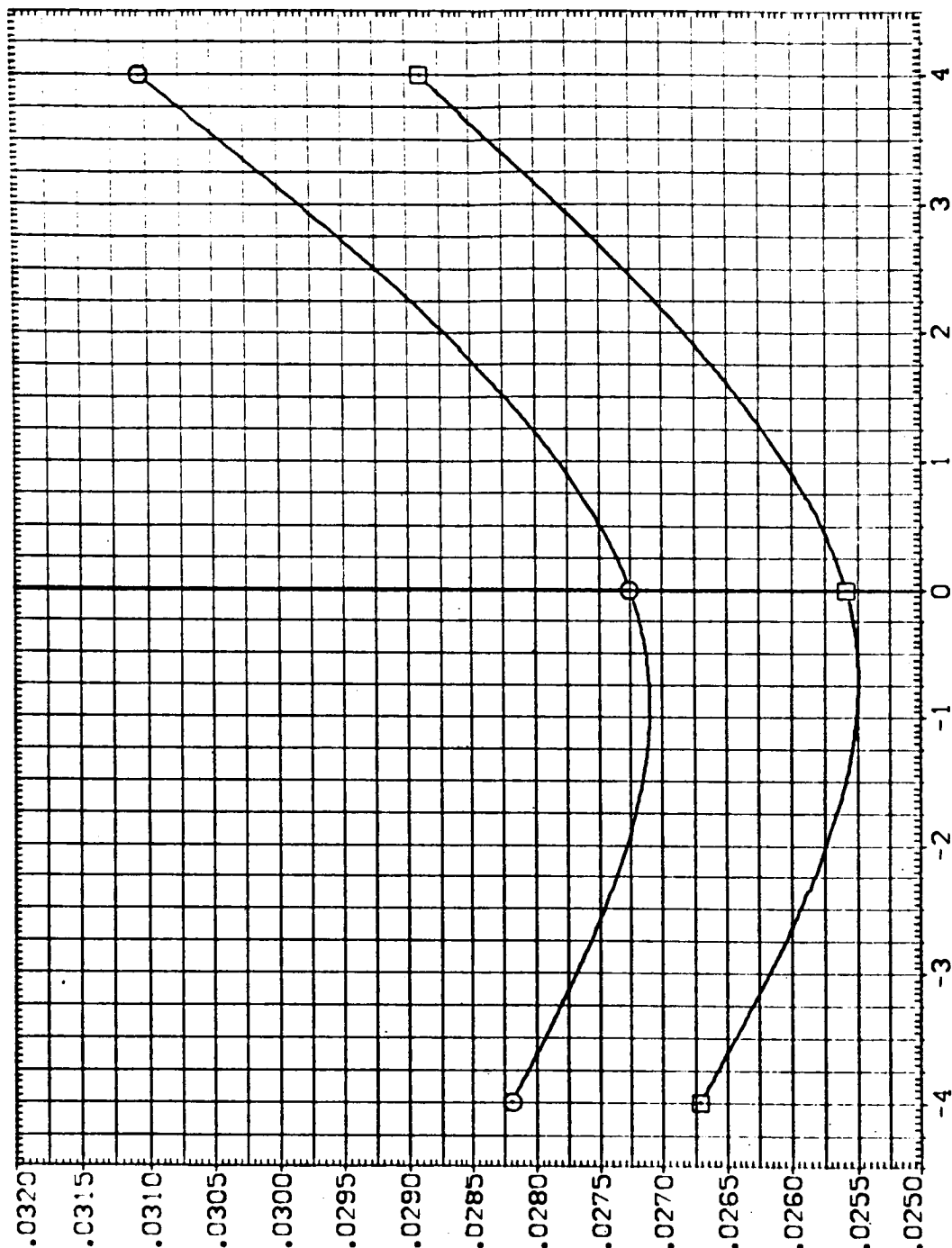


FIG. 51 EFFECT OF PLUMES - MACH=1.1 ELV-OB=8.0 ELV-OB=4.0 BETA=0.0

(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION ELV-18 ELV-08 MACH GIMBAL REFERENCE INFORMATION

[3:JCS0]	ARC11-0141A19 DIS	8.000	4.000	1.100	1.000	SREF 2690.0000	50. FT.
[3:JCS4]	ARC11-0141A19 DIS	8.000	4.000	1.100	1.000	LREF 1290.3000	IN.
						BREF 1290.3000	IN.
						XMRP 976.0000	IN. XT
						YMRP .0000	IN. YT
						ZMRP .0000	IN. ZT
						SCALE 400.0000	
							.0200



ORBITER BASE AXIAL-FORCE COEFFICIENT, C_{ABO}

FIG. 51 EFFECT OF PLUMES - MACH=1.1 ELV-18=8.0 ELV-08=4.0 BETA=0.0

C_{ABETA} = .00



DATA SET SYMBOL: 31050
 CONFIGURATION DESCRIPTION: ARC-11-0141A19 OTS
 SUB-OFF MPS-OFF: 31050
 SUB-NOM MPS-OFF: 31050

ELV-18: 8.000
 ELV-08: 4.000
 MACH: 1.100
 GIMBAL: 1.000

REFERENCE INFORMATION:
 SREF: 2690.0000
 LREF: 1290.3000
 BREF: 1290.3000
 YMRP: 976.0000
 ZMRP: 400.0000
 SCALE: .0200
 N: ZT
 N: YT
 N: ZT

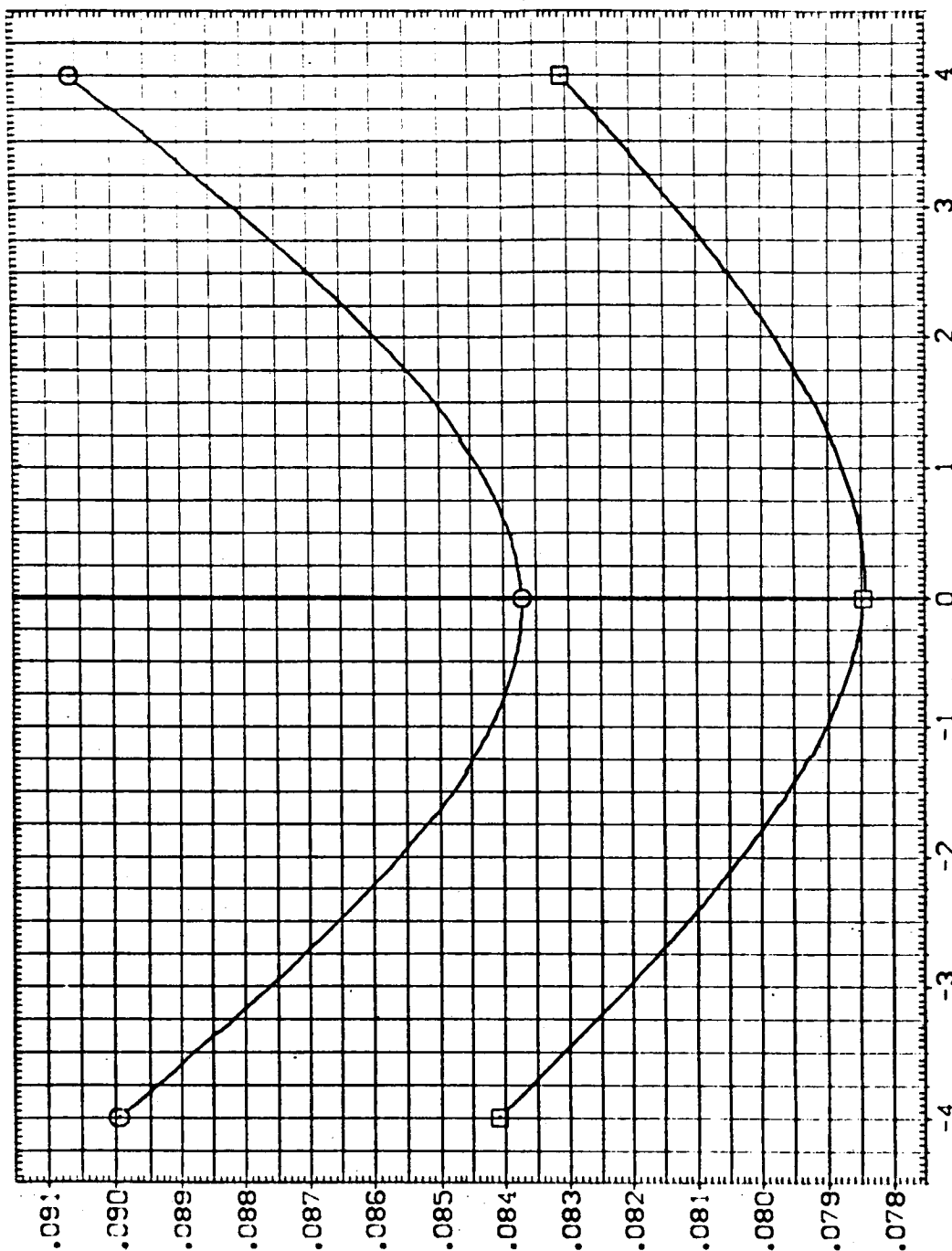


FIG. 51 EFFECT OF PLOUMES - MACH=1.1 ELV-18=8.0 ELV-08=4.0 BETA=0.0

(A) BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[3-055] ○ ARC11-0141A19 OTS SRB-OFF MPS-OFF

[3-055] □ ARC11-0141A19 OTS SRB-NOM MPS-OFF

ELV-18 ELV-08 MACH GIMBAL

8.000 4.000 1.250 1.000

8.000 4.000 1.250 1.000

REFERENCE INFORMATION

SREF 2650.0000 50.FT.

LREF 1250.3000 IN.

BREF 1250.3000 IN.

YMRP 576.0000 IN.

ZMRP 400.0000 IN.

SCALE .0200

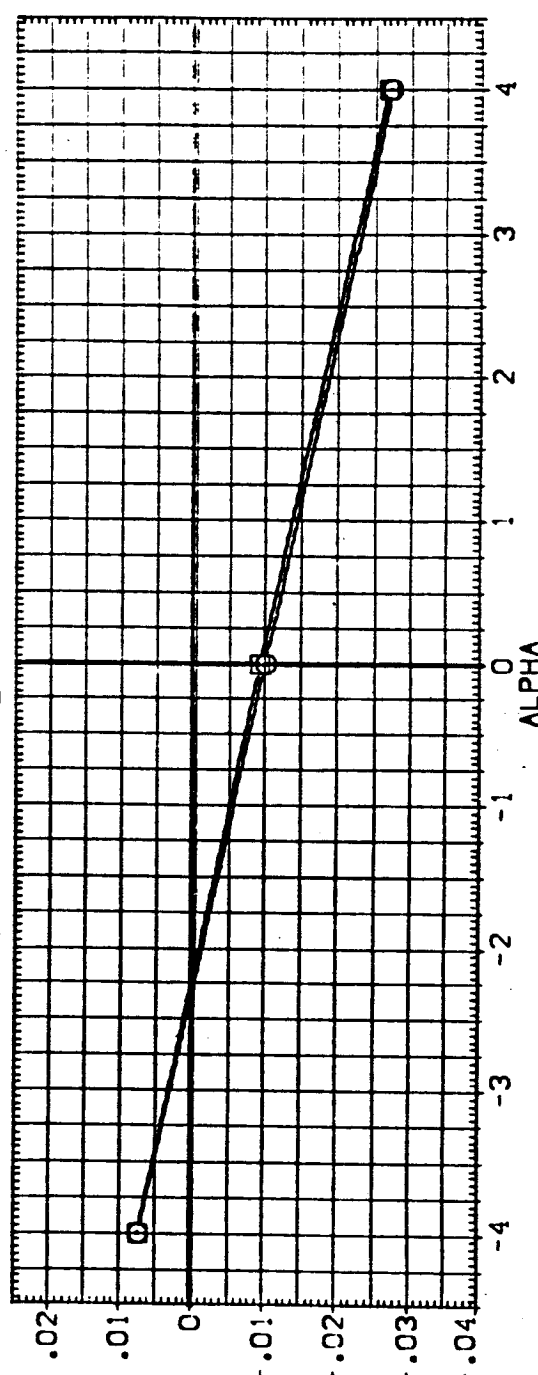
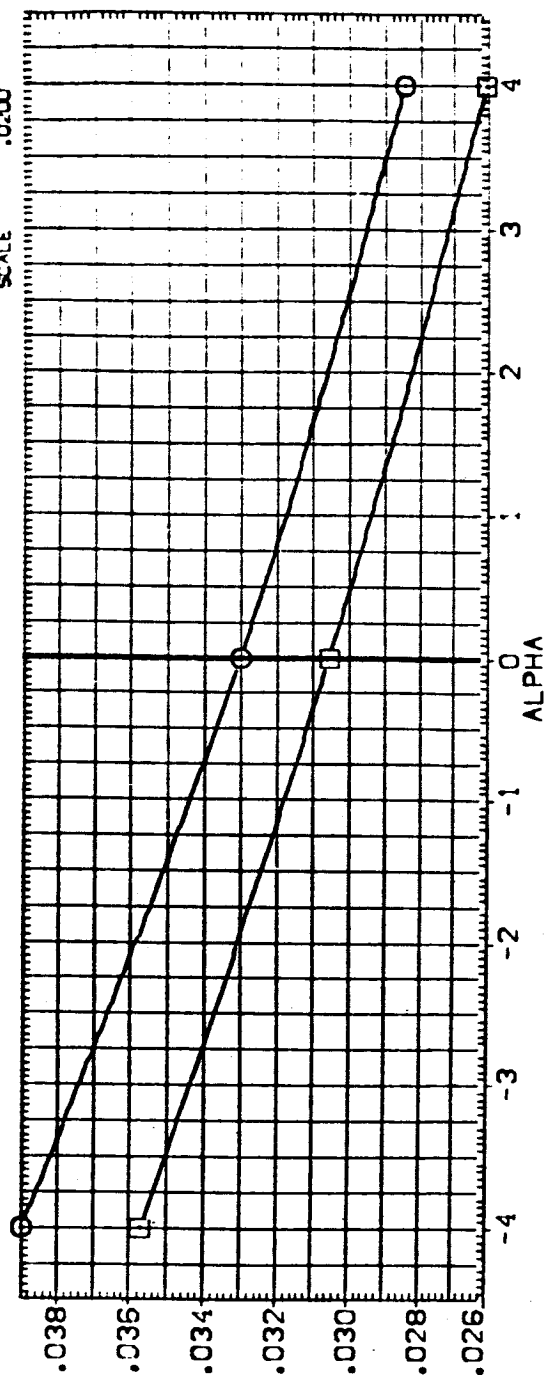


FIG. 52 EFFECT OF PLUMES - MACH=1.25 ELV-18=8.0 ELV-08=4.0 BETA=0.0

CABETA = .00

DATA SET SYMBOL: 0
 CONFIGURATION DESCRIPTION: ARC11-0:4:1:9 OTS
 SSB-OFF: 0.000
 SSB-NOM: 0.000
 ELV-18: 8.000
 ELV-08: 4.000
 MACH: 1.250
 GIMBAL: 1.000
 REFERENCE INFORMATION:
 SREF: 2590.0000
 LREF: 1290.3000
 BREF: 1290.3000
 XMRP: 976.0000
 YMRP: 400.0000
 ZMRP: 400.0000
 SCALE: .0200
 90.FT. IN. IN. XT IN. YT IN. ZT

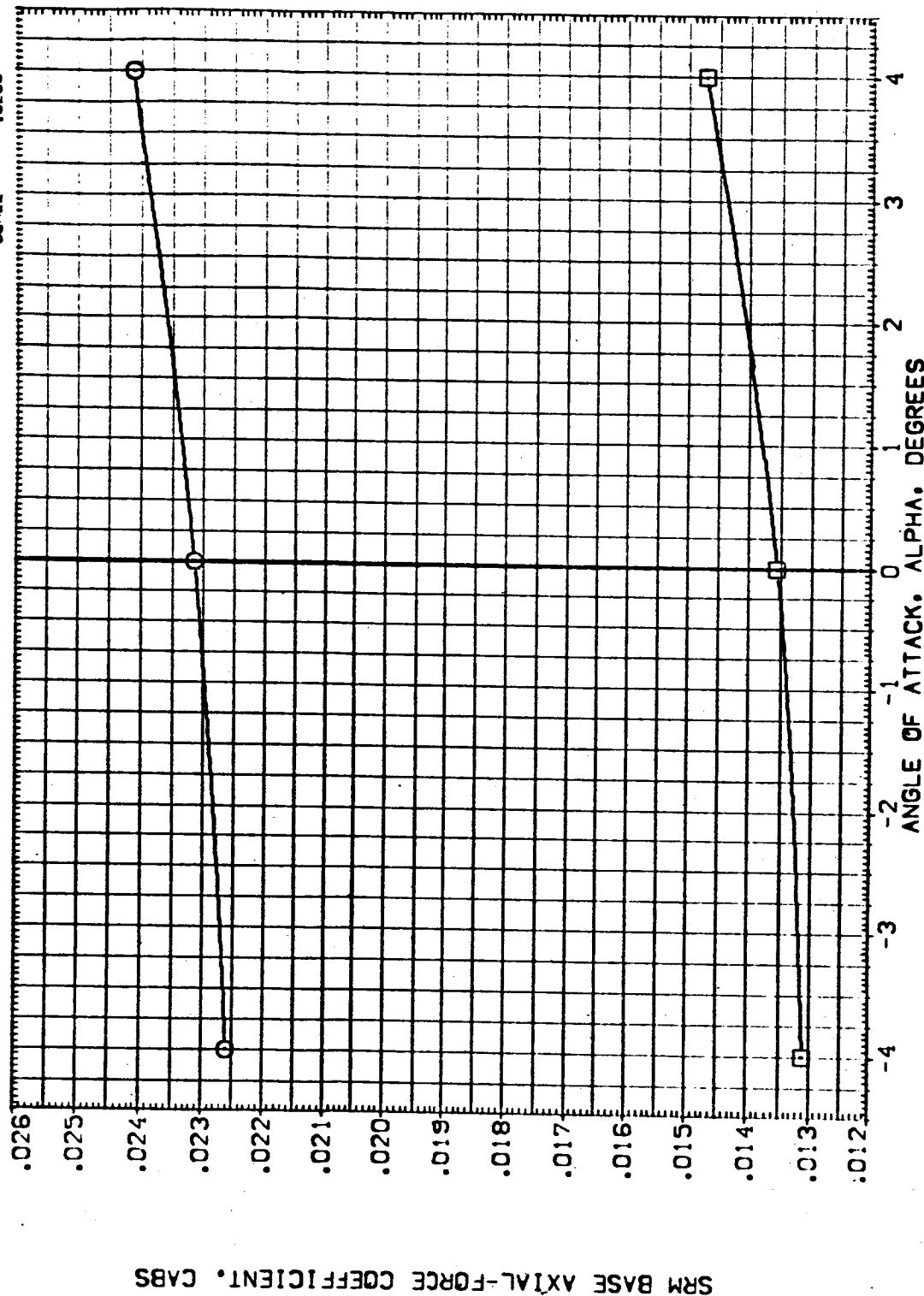


FIG. 52 EFFECT OF PLUMES - MACH=1.25 ELV-18=8.0 ELV-08=4.0 BETA=0.0

CABETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION ELV-1B ELV-0B MACH GIMBAL REFERENCE INFORMATION

(B) 05:11	ARC11-0141A19 OTS	8.000	4.000	1.250	1.000	SREF	2690.0000	50. FT.
(B) 05:11	ARC11-0141A19 OTS	8.000	4.000	1.250	1.000	LREF	1290.3000	IN.
						BREF	1290.3000	IN.
						XMRP	976.0000	IN.
						YMRP	0.0000	IN.
						ZMRP	400.0000	IN.
						SCALE	0.0200	

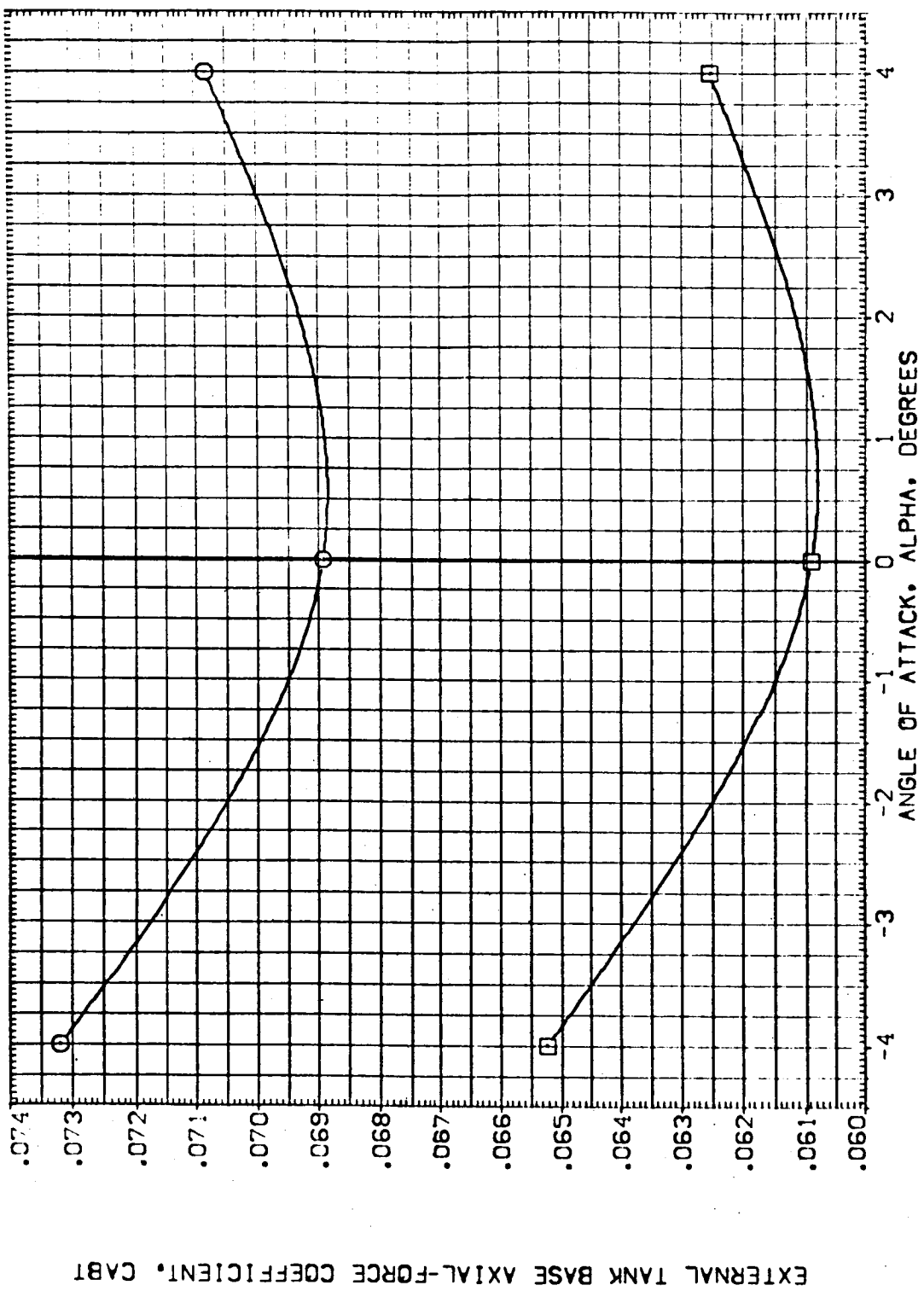


FIG. 52 EFFECT OF PLUMES - MACH=1.25 ELV-1B=8.0 ELV-0B=4.0 BETA=0.0

CABETA = .00

DATA SET SYMBOL. CONFIGURATION DESCRIPTION

(B:J052)	ARC11-0141A19 01S	SRB-OFF MPS-OFF	ELV-IB	ELV-OB	MACH	GIMBAL	REFERENCE INFORMATION
(B:J056)	ARC11-0141A19 01S	SRB-NOM MPS-OFF	8.000	4.000	1.400	1.000	SREF 2690.0000 50.Ft.
			8.000	4.000	1.400	1.000	LREF 1290.3000 IN.
							BREF 1290.3000 IN.
							XMRP 976.0000 IN. XT
							YMRP 400.0000 IN. YT
							ZMRP 400.0000 IN. ZT
							SCALE .0200

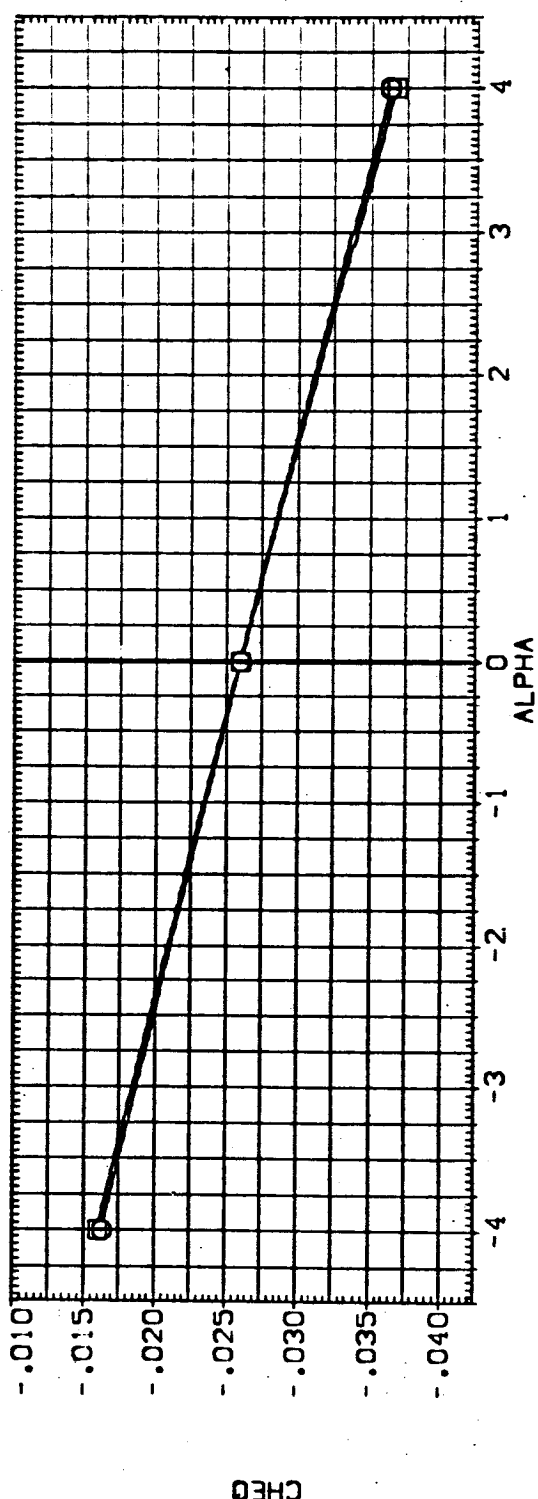
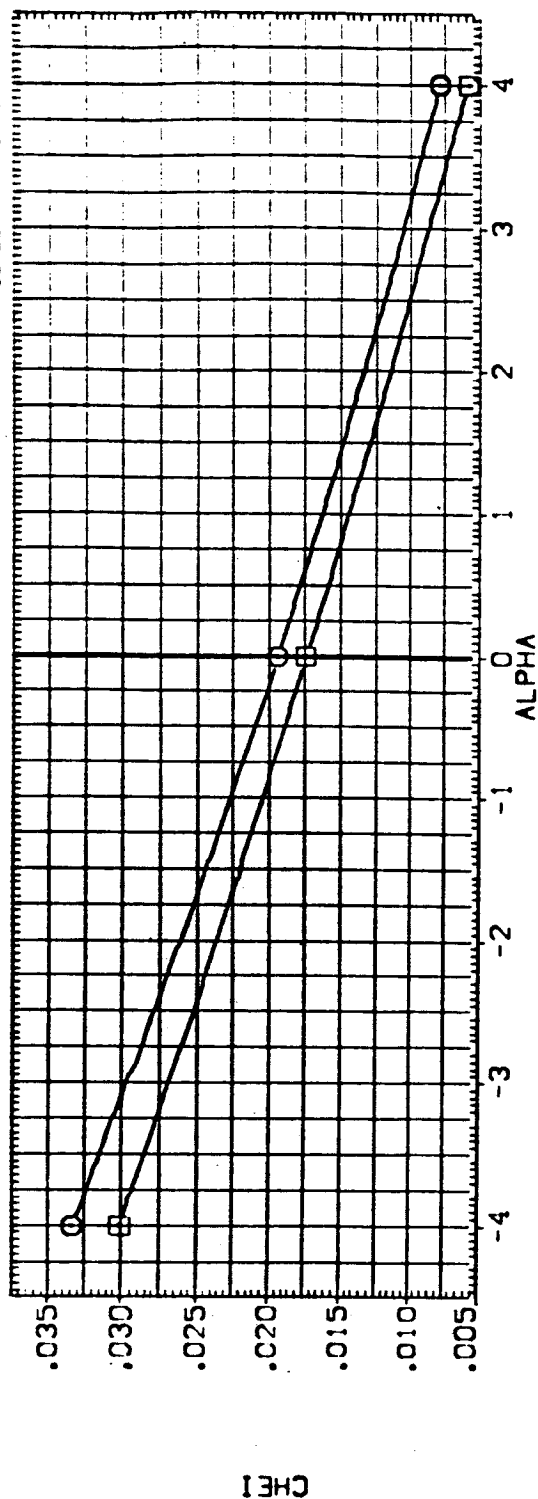


FIG. 53 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=4.0 BETA=0.0

CABETA = .00

DATA SET SYMBOL: 0141A19 DTS
 (B) 0521 0141A19 DTS
 (E) 056: 0141A19 DTS

CONFIGURATION DESCRIPTION
 SRB-OFF MPS-OFF
 SRB-NOM MPS-OFF

ELV-IB 8.000 8.000
 ELV-OB 4.000 4.000
 MACH 1.400 1.400
 GIMBAL 1.000 1.000

REFERENCE INFORMATION
 SREF 2690.0000 50.000
 LREF 1290.3000 1.000
 BREF 1290.3000 1.000
 XMRP 976.0000 1.000
 YMRP 400.0000 1.000
 ZMRP 400.0000 1.000
 SCALE .0030

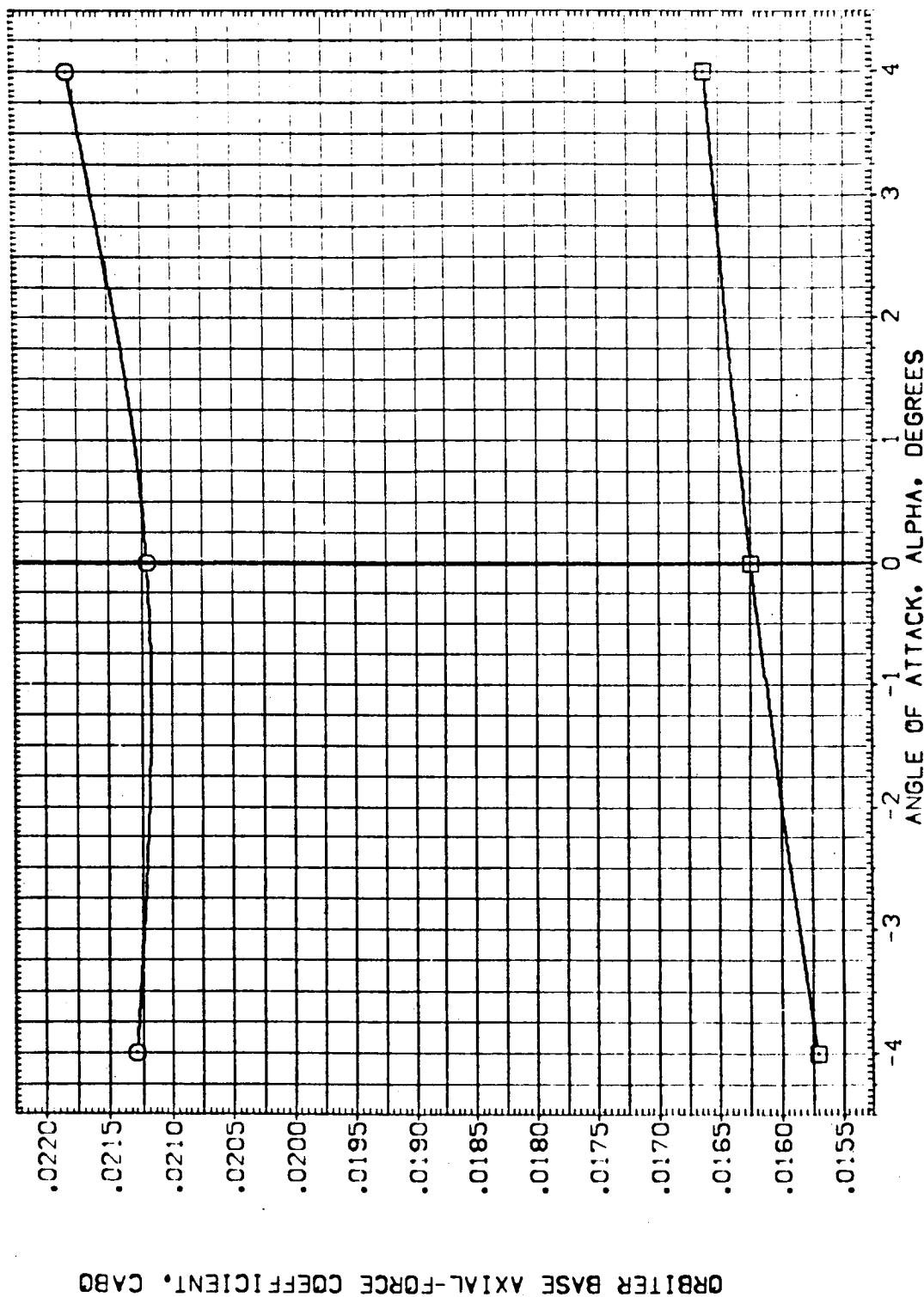


FIG. 53 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=4.0 BETA=0.0

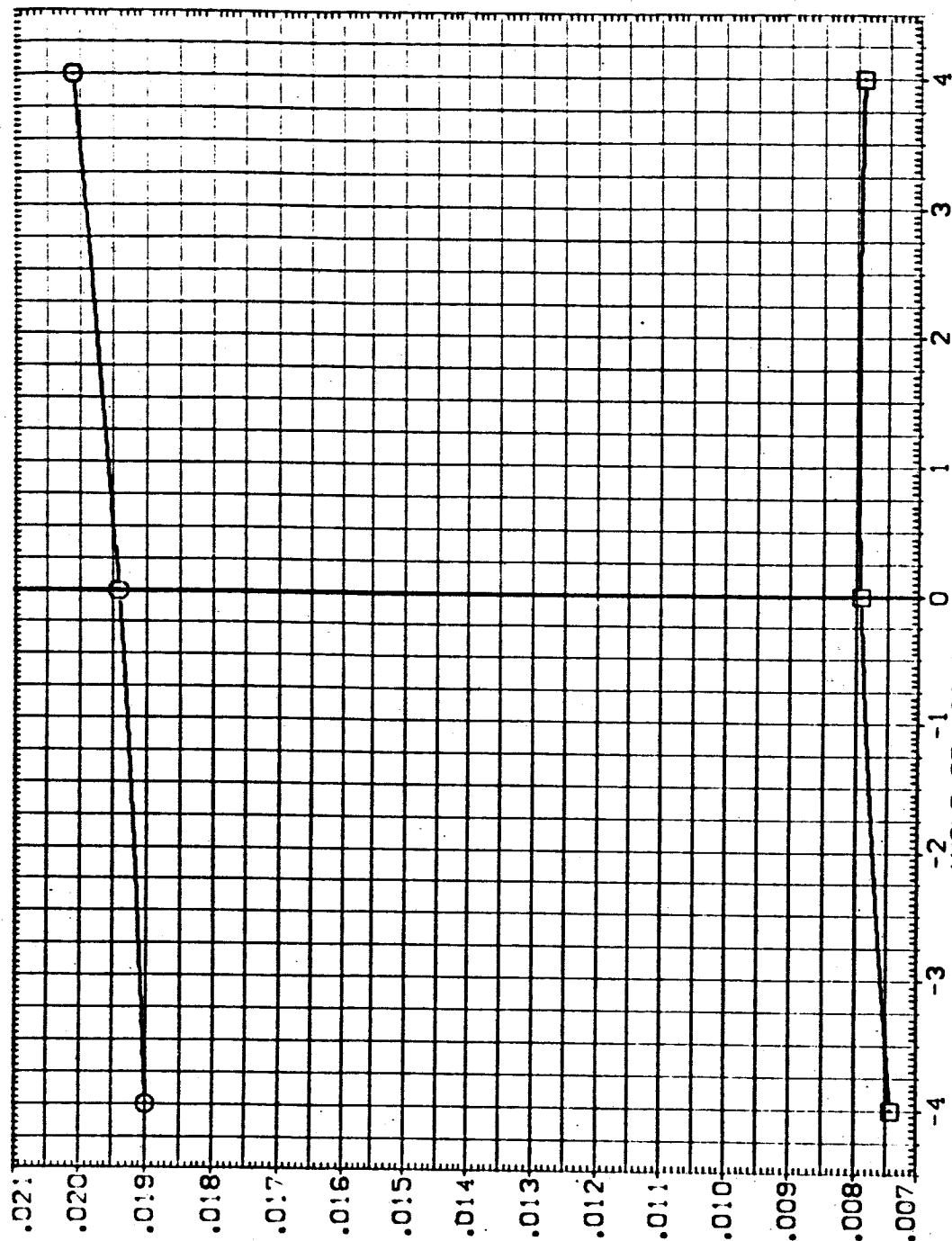
(A) BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 [3EJ052] O ARC11-0141A19 D1S
 [3EJ056] ARC11-0141A19 D1S

SR9-OFF MPS-OFF
 SR9-NOM MPS-OFF

ELV-1B 8.000
 ELV-0B 4.000
 MACH 1.400
 GIMBAL 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP 400.0000 IN.
 ZMRP 400.0000 IN.
 SCALE .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

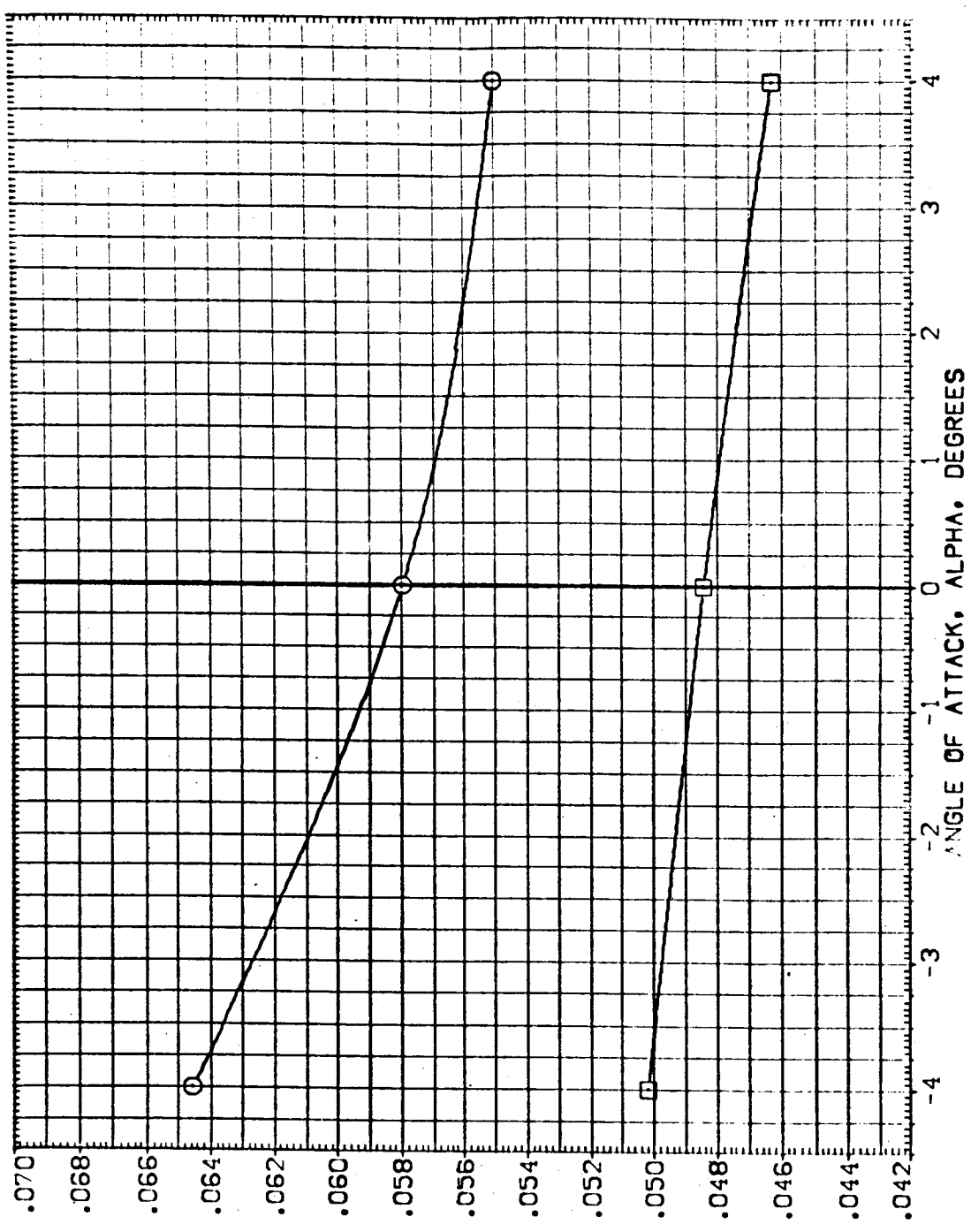
ANGLE OF ATTACK, ALPHA, DEGREES

FIG. 53 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=4.0 BETA=0.0

(A)BETA = .00

DATA SET SYMBOL: [3EJ052] [3EJ056]
 CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS
 SRB-OFF MPS-OFF
 SRB-NOM MPS-OFF

ELV-1B 8.000 8.000
 ELV-0B 4.000 4.000
 MACH 1.400 1.400
 GIMBAL 1.000 1.000
 REFERENCE INFORMATION:
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP .0000 IN.
 ZMRP 400.0000 IN.
 SCALE 1000



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 53 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=4.0 BETA=0.0

(A)BETA = .00

DATA SET SYMBOL: 0141A19 015
 CONFIGURATION DESCRIPTION: SRB-OFF MPS-OFF
 SRB-NOM MPS-OFF

ELV-18 8.000 ELV-08 4.000 MACH .900 GIMBAL 1.000
 REFERENCE INFORMATION: SQ.FT. 2690.0000
 SREF 1290.0000
 LREF 1290.0000
 BREF 976.0000
 XMRP 400.0000
 YMRP 400.0000
 ZMRP 400.0000
 SCALE .0200

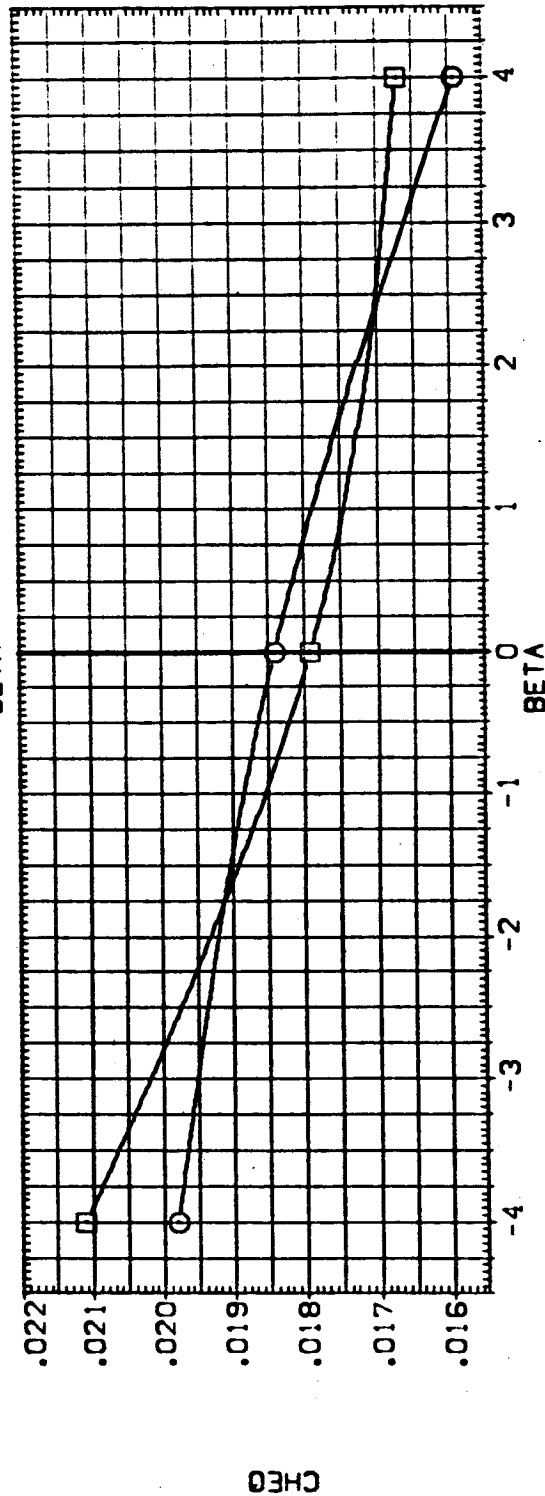
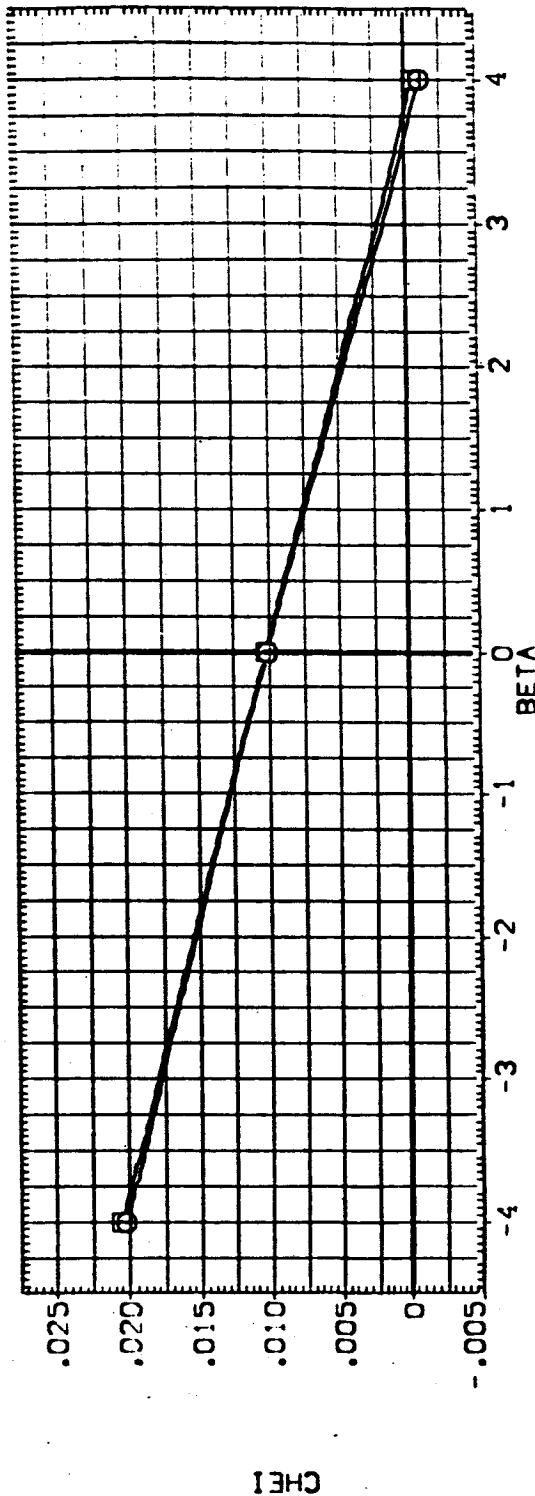


FIG. 54 EFFECT OF PLUMES - MACH=0.9 ELV-18=8.0 ELV-08=4.0 ALPHA=0.0

(A) ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION ELV-IB ELV-OB MACH GIMBAL REFERENCE INFORMATION

[CEJ049]	ARC11-0141A19 OTS	8.000	4.000	.900	1.000	SREF 2690.0000 SQ.FT.
[CEJ053]	ARC11-0141A19 OTS	8.000	4.000	.900	1.000	LREF 1790.3000 IN.
						BREF 1790.3000 IN.
						XMRP 976.0000 IN. XT
						YMRP .0000 IN. YT
						ZMRP 400.0000 IN. ZT
						SCALE .0300

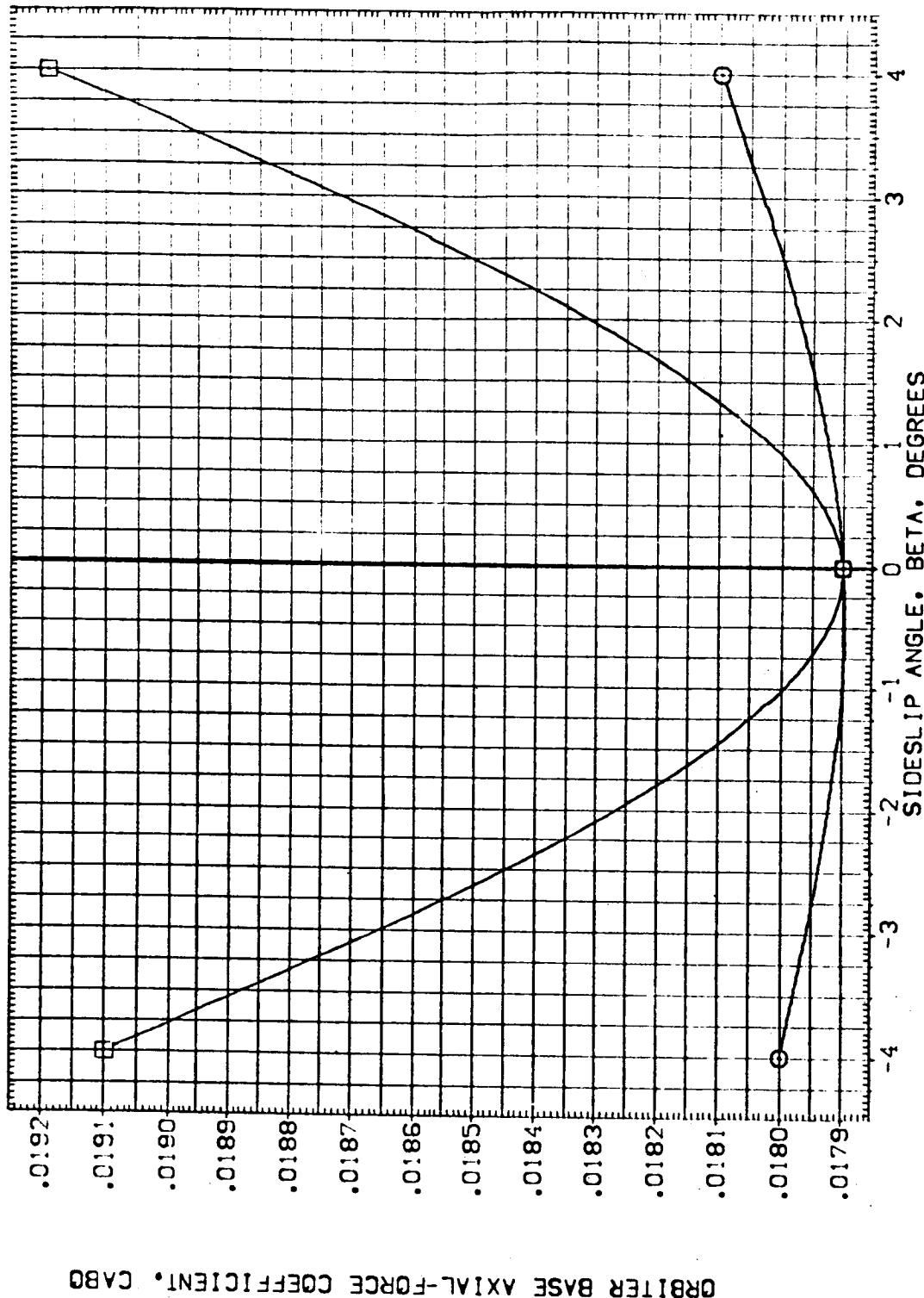


FIG. 54 EFFECT OF PLUMES - MACH=0.9 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0

CALPHA = .00



DATA SET SYMBOLS CONFIGURATION DESCRIPTION

(C) (C) 1971
(C) (C) 1971

ELV-1B ELV-0B MACH GIMBAL

8.000 4.000 .900 1.000
8.000 4.000 .900 1.000

SREF LREF BREF XMRP YMRP ZMRP SCALE

2690.0000 1290.3000 1290.3000 976.0000 400.0000 .0200
IN. IN. IN. IN. IN. IN.

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

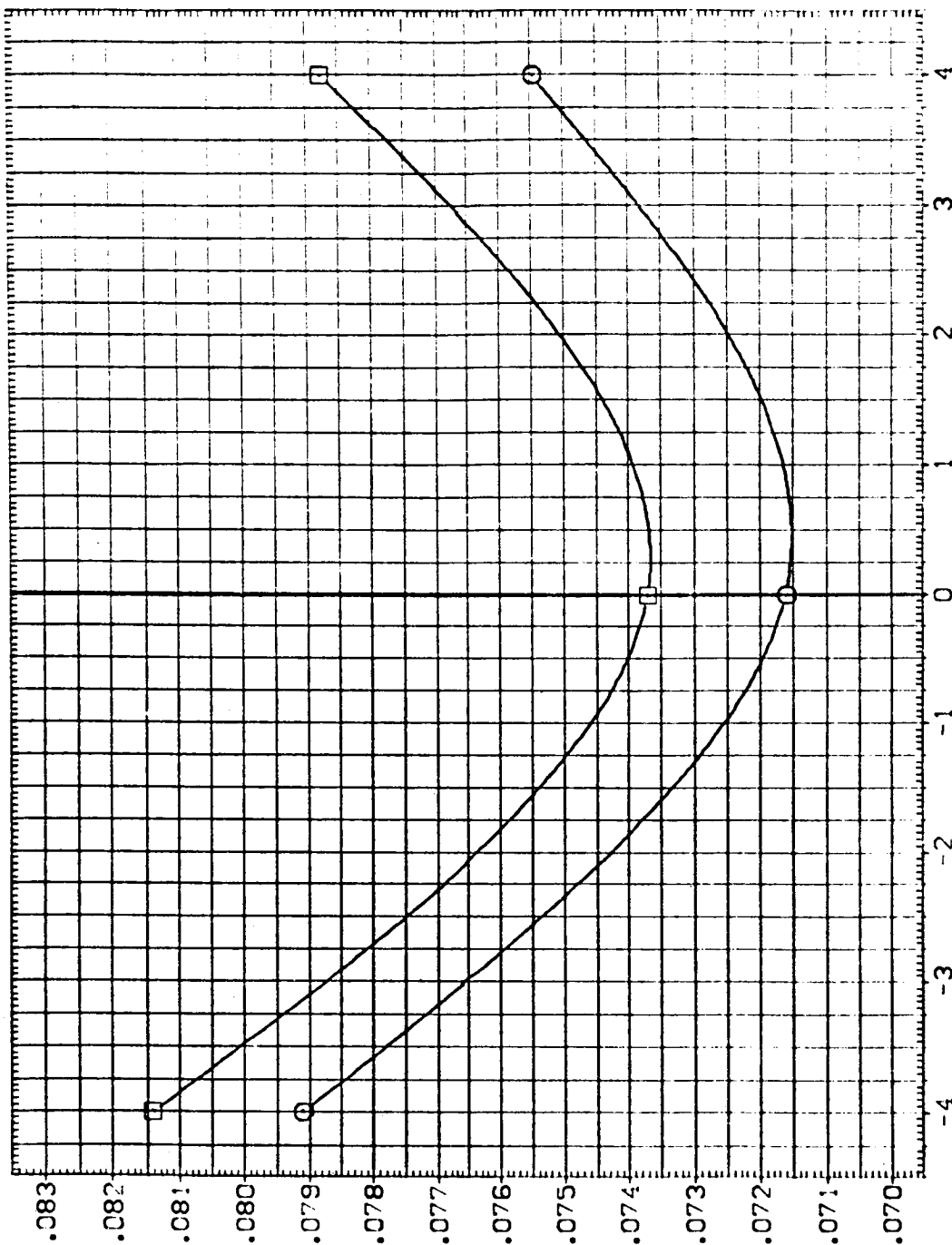


FIG. 54 EFFECT OF PLOMES - MACH=0.9 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0

(A) ALPHA = .00

DATA SET SYMBO. CONFIGURATION DESCRIPTION

SYMBOL	CONFIGURATION DESCRIPTION	SRB-OFF MPS-OFF	SRB-NOM MPS-OFF	ELV-1B	ELV-0B	MACH	GIMBAL	REFERENCE INFORMATION
○	ARC11-0141A19 OTS			8.000	4.000	1.100	1.000	SREF 2690.0000 50.FT.
□	ARC11-0141A19 OTS			8.000	4.000	1.100	1.000	LREF 1290.3000 IN.
								BREF 1290.3000 IN.
								XMRP 576.0000 IN. XT
								YMRP .0000 IN. YT
								ZMRP 400.0000 IN. ZT
								SCALE .0200

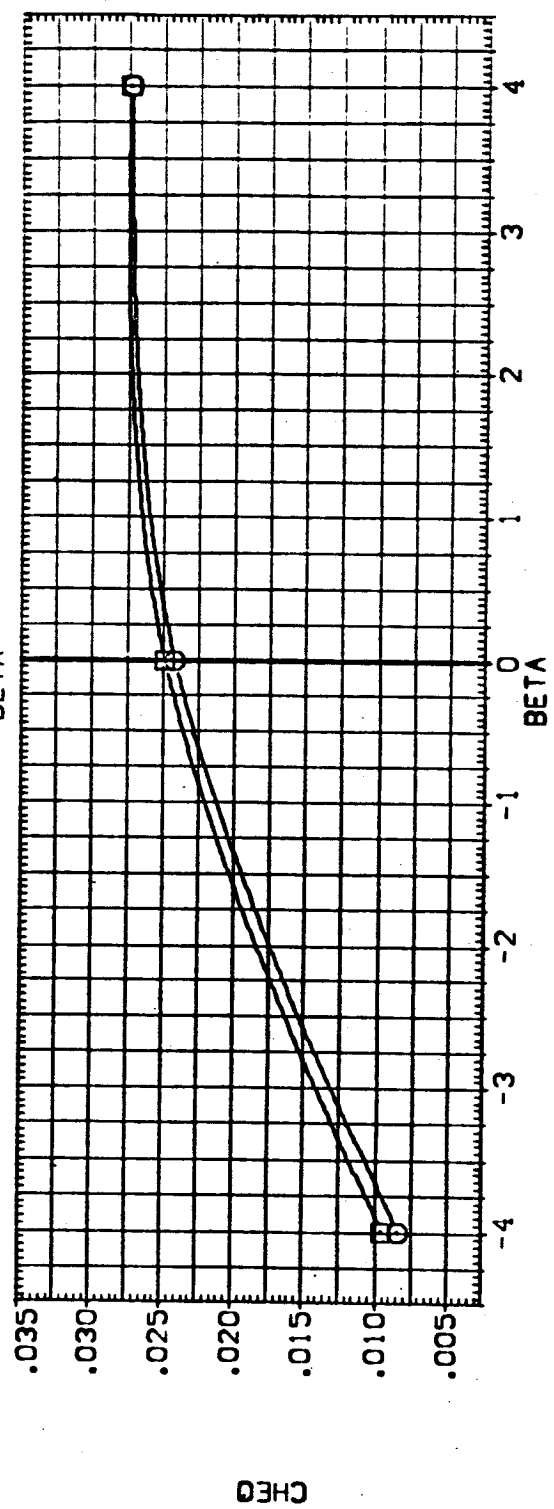
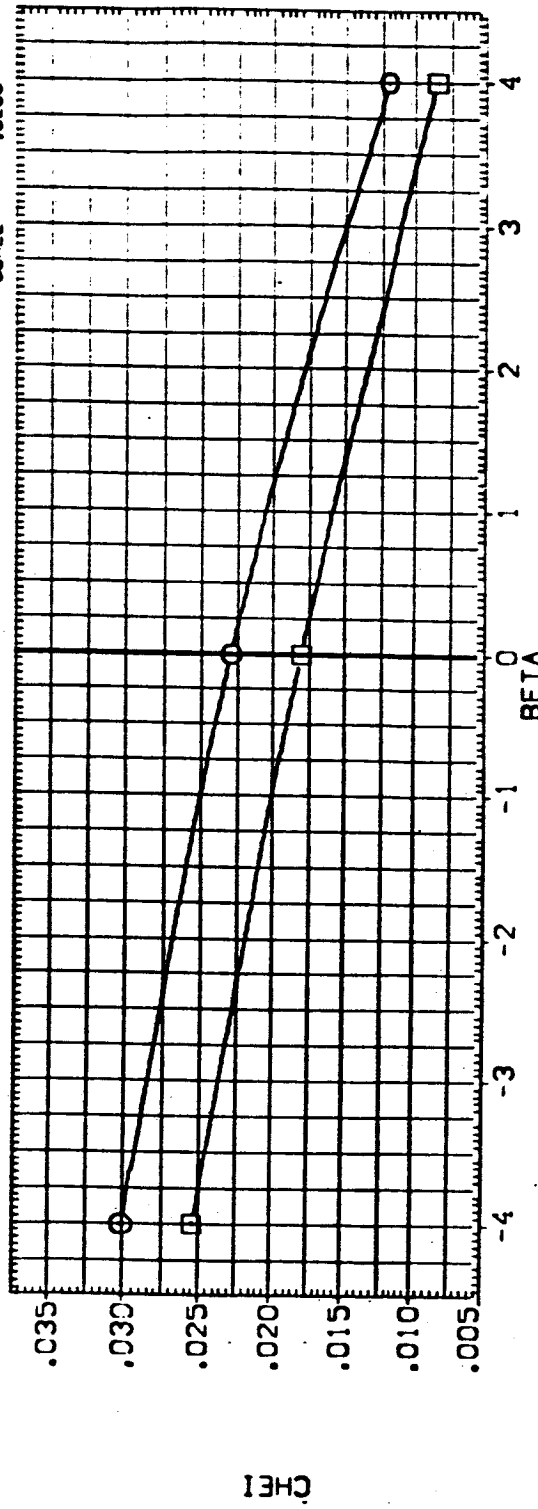


FIG. 55 EFFECT OF PLUMES - MACH=1.1 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0
 (A) ALPHA = .00

DATA SET SYMBOL: **CONF** **IG** **URATION** **DESCRIPTION**

[CEUCSO] ○ ARC11-0141A19 QTS S98-0FF MPS-0FF

[CEUCSA] ARC11-0141A19 QTS S98-NOM MPS-0FF

ELV-IB 8.000 8.000 ELV-OB 4.000 4.000 MACH 1.100 1.100 G1MBAL 1.000 1.000

SREF 2690.0000 SQ.FT. REFERENCE INFORMATION

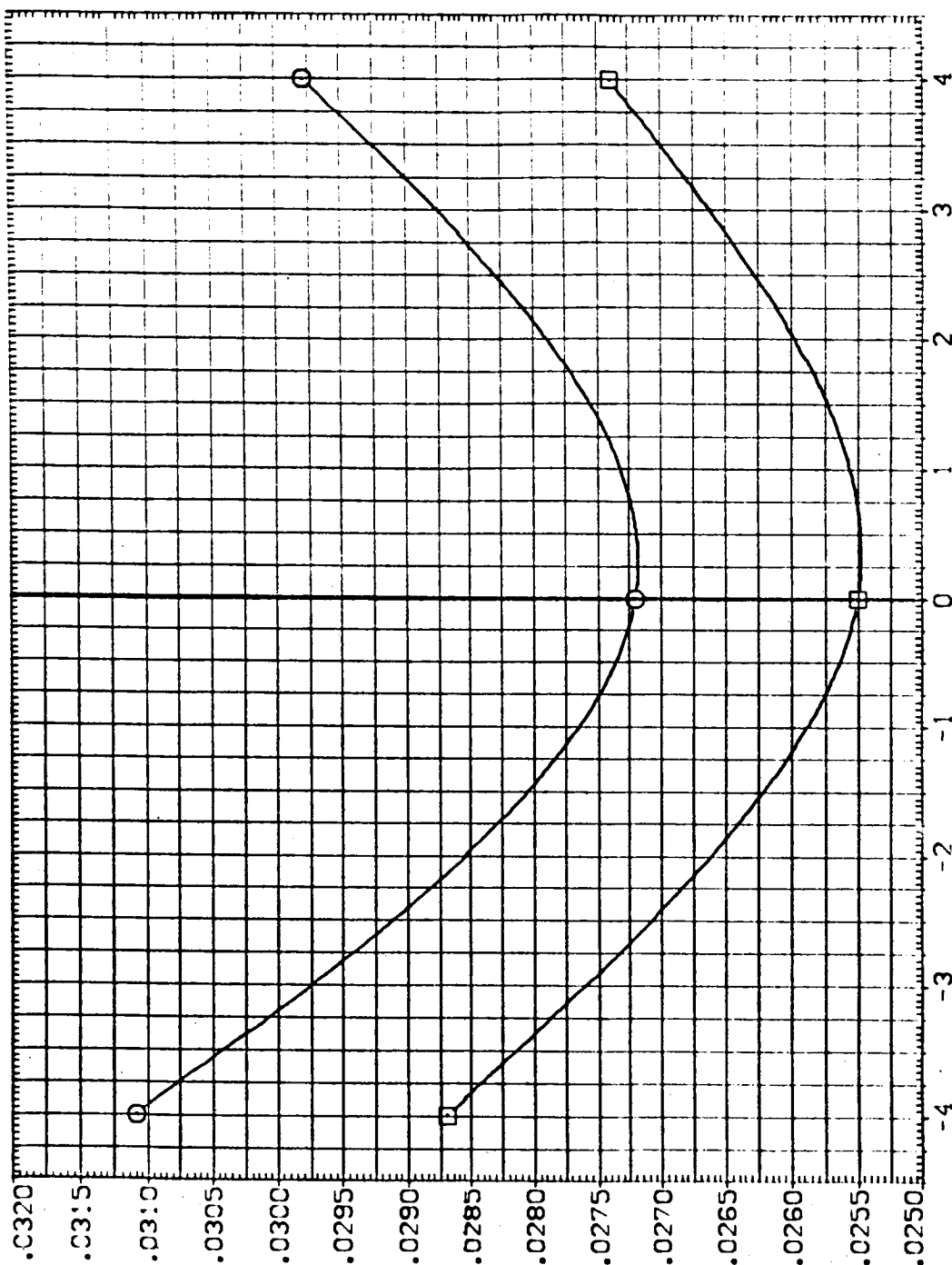
LREF 1290.3000 IN. IN.

XMRP 976.0000 IN. XT

YMRP .0000 IN. YT

ZMRP 400.0000 IN. ZT

SCALE .0200

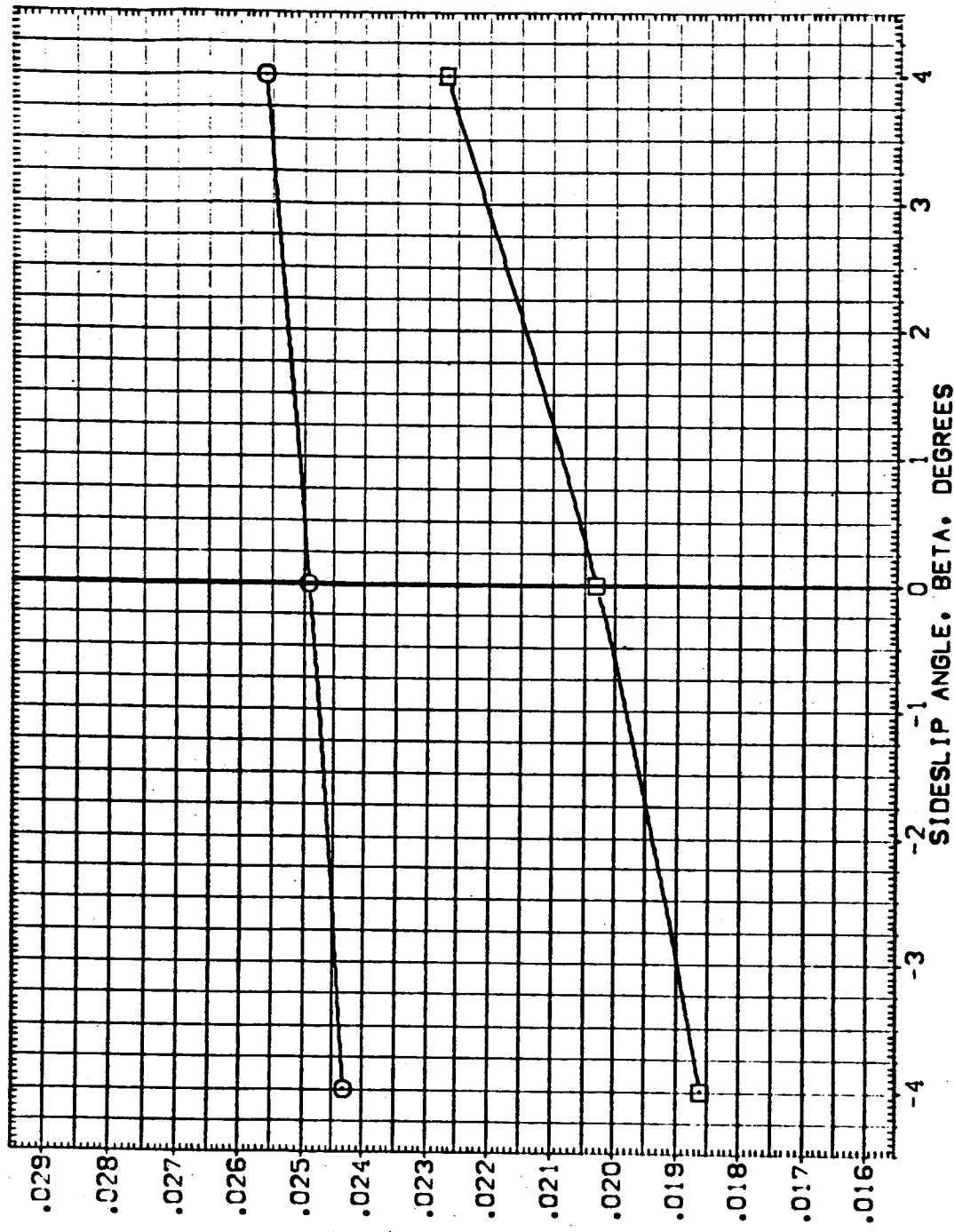


ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 55 EFFECT OF PLUMES - MACH 1.1 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0

CAJALPHA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-18	ELV-08	MACH	GIMBAL	REFERENCE INFORMATION
(CELOS3)	ARC11-0141A19 015	8.000	4.000	1.100	1.000	SREF 2690.0000 50.FT.
(CELOS4)	ARC11-0141A19 015	8.000	4.000	1.100	1.000	LREF 1290.3000 IN.
						BREF 1290.3000 IN.
						XMRP 976.0000 IN. XT
						YMRP 400.0000 IN. YT
						ZMRP 400.0000 IN. ZT
						SCALE .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 55 EFFECT OF PLUMES - MACH=1.1 ELV-18=8.0 ELV-08=4.0 ALPHA=0.0

CALPHA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-18	ELV-09	MACH	GIMBAL	REFERENCE INFORMATION
(CELC50)	ARC11-0141A19 015	8.000	4.000	1.100	1.000	SREF 2690.0000 SQ.FT.
(CELC54)	ARC11-0141A19 015	8.000	4.000	1.100	1.000	LREF 1290.3000 IN.
						BREF 1290.3000 IN.
						N: XT
						N: YI
						N: ZI
						SCALE .0200

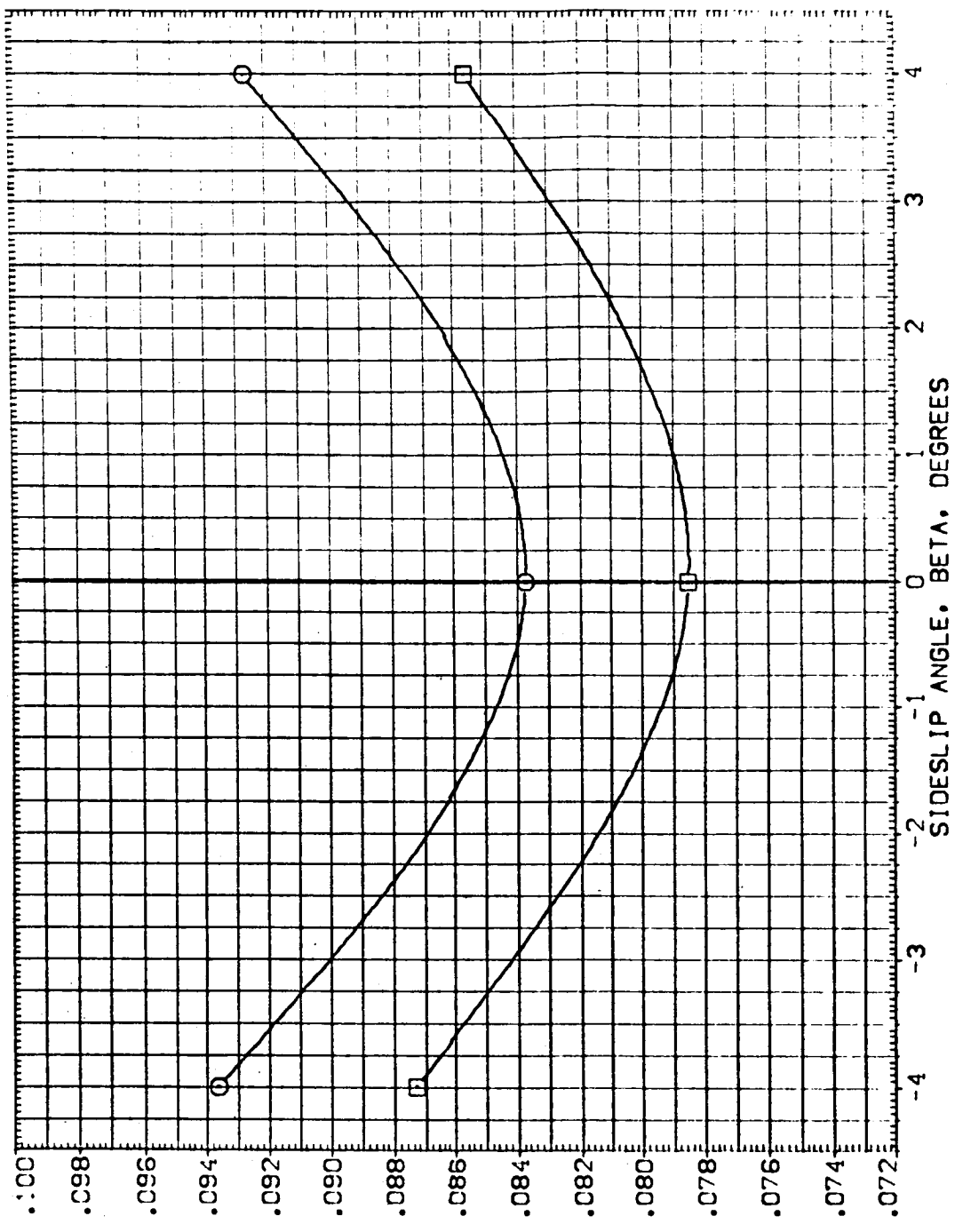


FIG. 55 EFFECT OF PLUMES - MACH=1.1 ELV-18=8.0 ELV-09=4.0 ALPHA=0.0
 (A)ALPHA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GINBAL	REFERENCE INFORMATION
010001	ARC11-0141A19 OTS	8.000	4.000	1.250	1.000	SREF 2690.0000 50. FT.
010002	ARC11-0141A19 OTS	8.000	4.000	1.250	1.000	LREF 1290.3000 IN.
						BREF 1290.3000 IN.
						XREF 976.0000 IN. XT
						YREF 400.0000 IN. YT
						ZREF 400.0000 IN. ZT
						SCALE .0200

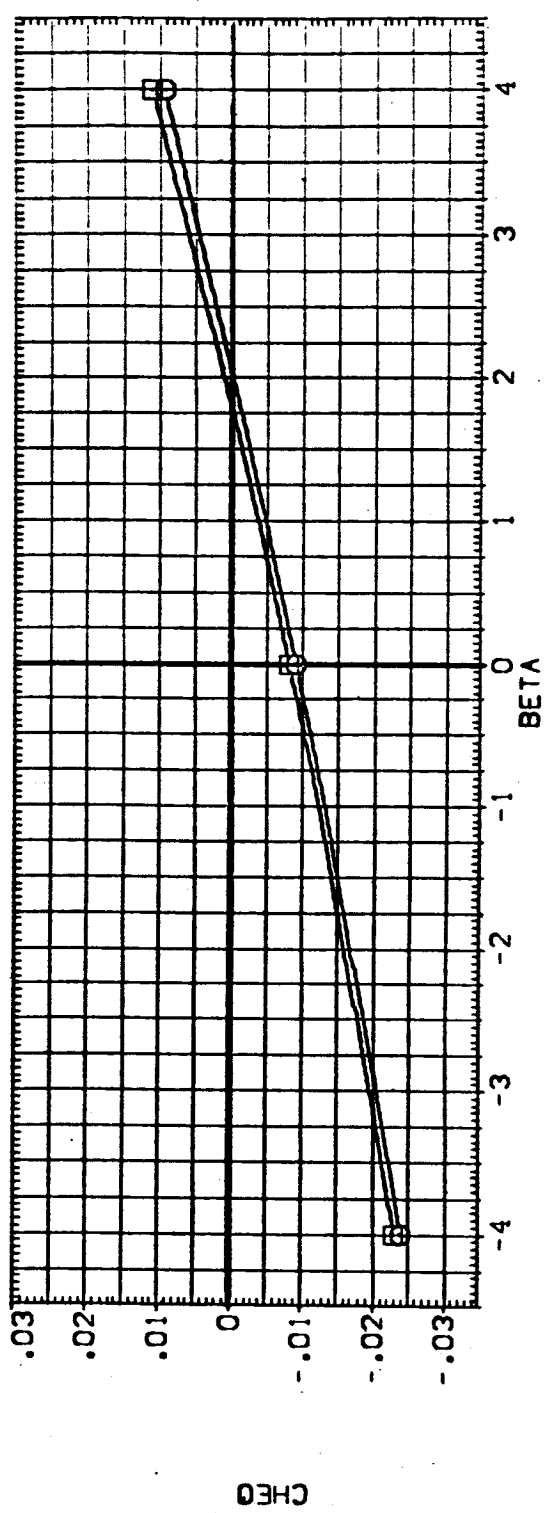
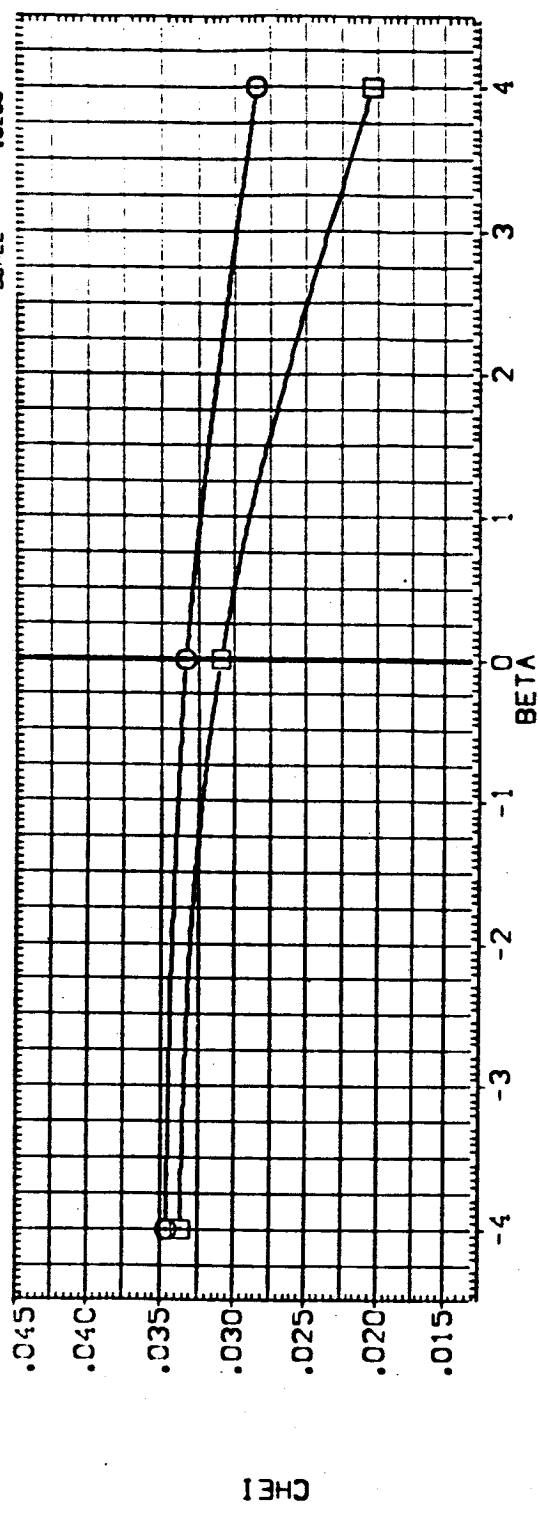


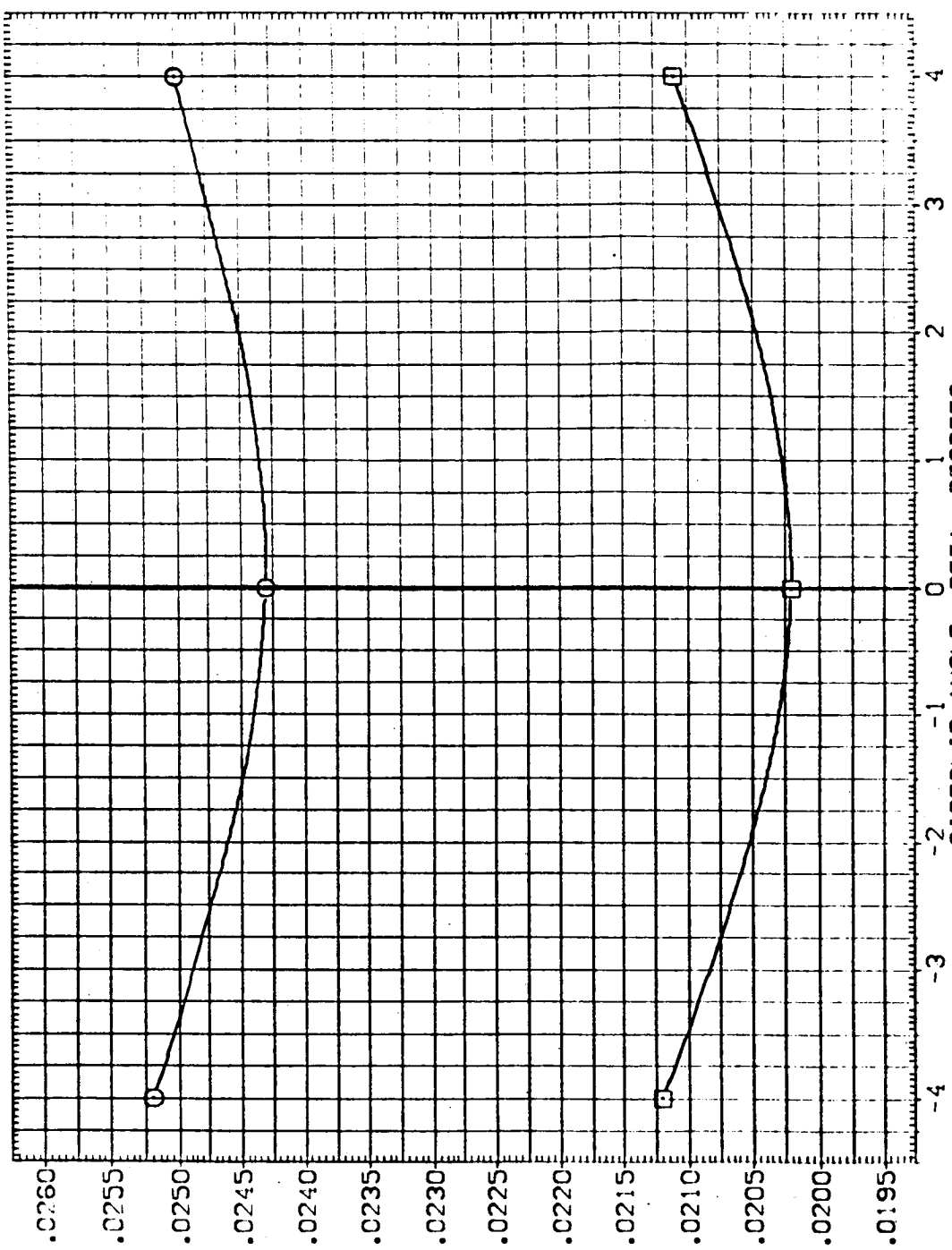
FIG. 56 EFFECT OF PLUMES - MACH=1.25 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0
CAJALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (CEUCS) 0 ARC11-0141A19 OTS
 (CEUCS) 0 ARC11-0141A19 OTS

ELV-1B ELV-0B MACH GIMBAL
 8.000 4.000 1.250 1.000
 8.000 4.000 1.250 1.000

S98-OF MPS-OF
 S98-NOM MPS-OF

REFERENCE INFORMATION
 SREF 2690.0000 50. FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XREF 976.0000 IN. XT
 YREF 400.0000 IN. YT
 ZREF 400.0000 IN. ZT
 SCALE .0200



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FIG. 56 EFFECT OF PLUMES - MACH=1.25 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0

(A) ALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION ELV-18 ELV-08 MACH GIMBAL REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-18	ELV-08	MACH	GIMBAL	SRFF	SQ.FT.
(CROSS)	ARC11-0:41A19 OTS	8.000	4.000	1.250	1.000	2690.0000	1290.3000
(CROSS)	ARC11-0:41A19 OTS	8.000	4.000	1.250	1.000	1290.3000	576.0000
						400.0000	400.0000
						SCALE	.0200

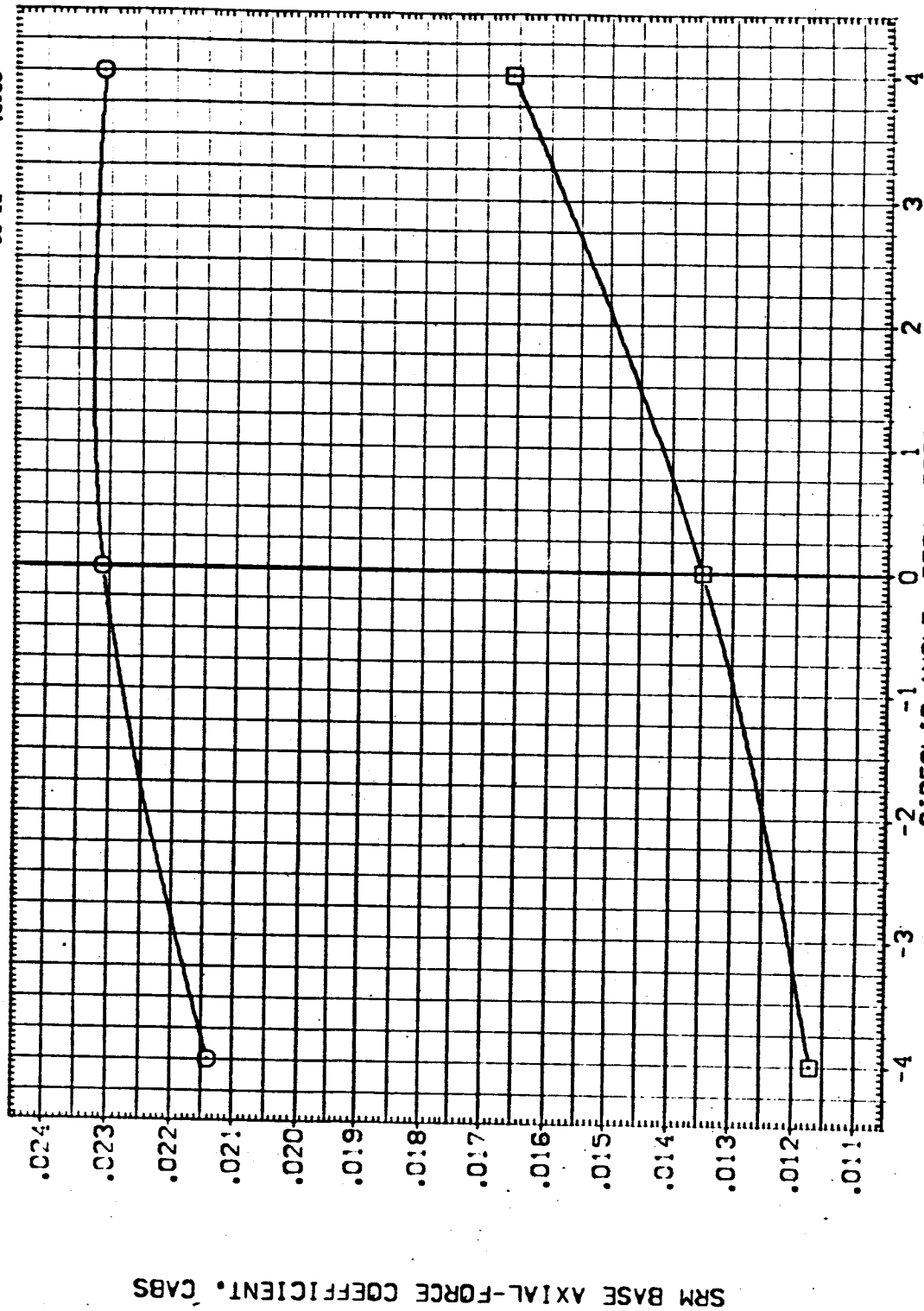


FIG. 56 EFFECT OF PLUMES - MACH=1.25 ELV-18=8.0 ELV-08=4.0 ALPHA=0.0

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (CEJCS:1) O ARC11-0141A19 OTS
 (CEJCS:5) ARC11-0141A19 OTS

SPB-OFF MPS-OFF
 SPB-NOM MPS-OFF

ELV-18 ELV-08 MACH
 8.000 4.000 1.250

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1790.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0000

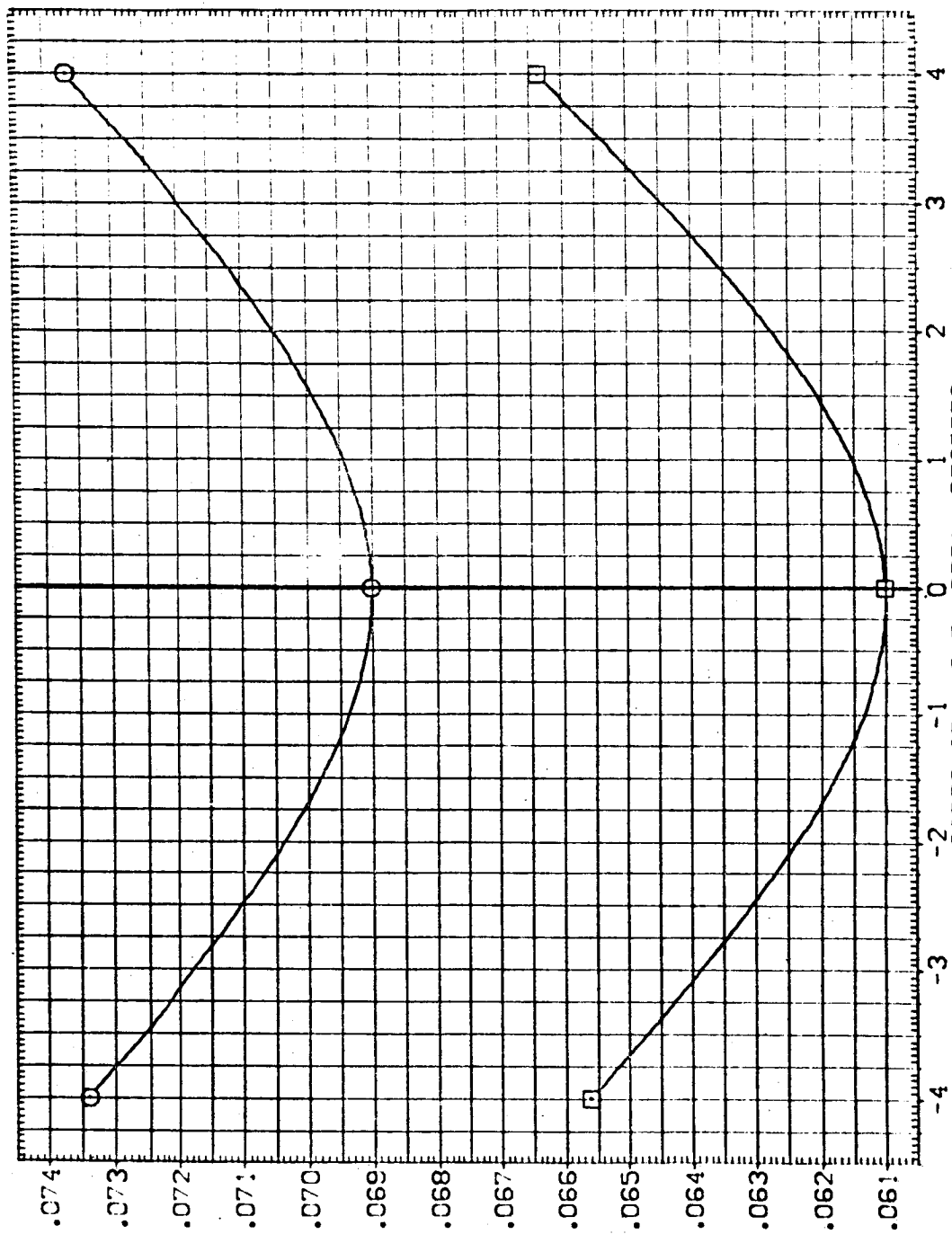


FIG. 56 EFFECT OF PLOMES - MACH=1.25 ELV-18=8.0 ELV-08=4.0 ALPHA=0.0

CALPHA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	MACH	GIMBAL	REFERENCE INFORMATION
ARC11-0141A19 OTS	S99-0FF MPS-0FF	8.000	4.000	1.400	1.000	SREF 2690.0000 SQ.FT.
ARC11-0141A19 OTS	S23-NOM MPS-0FF	8.000	4.000	1.400	1.000	LREF 1290.3000 IN.
						BREF 1290.3000 IN.
						XMRP 976.0000 IN. XT
						YMRP .0000 IN. YT
						ZMRP 400.0000 IN. ZT
						SCALE .0700

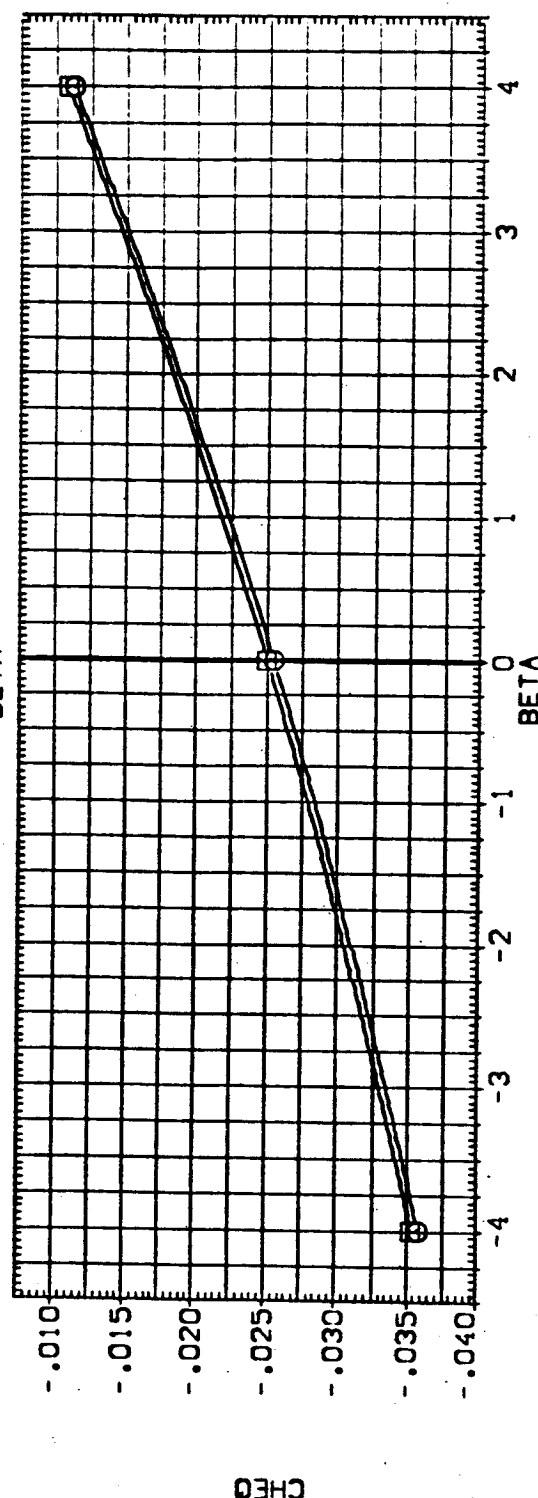
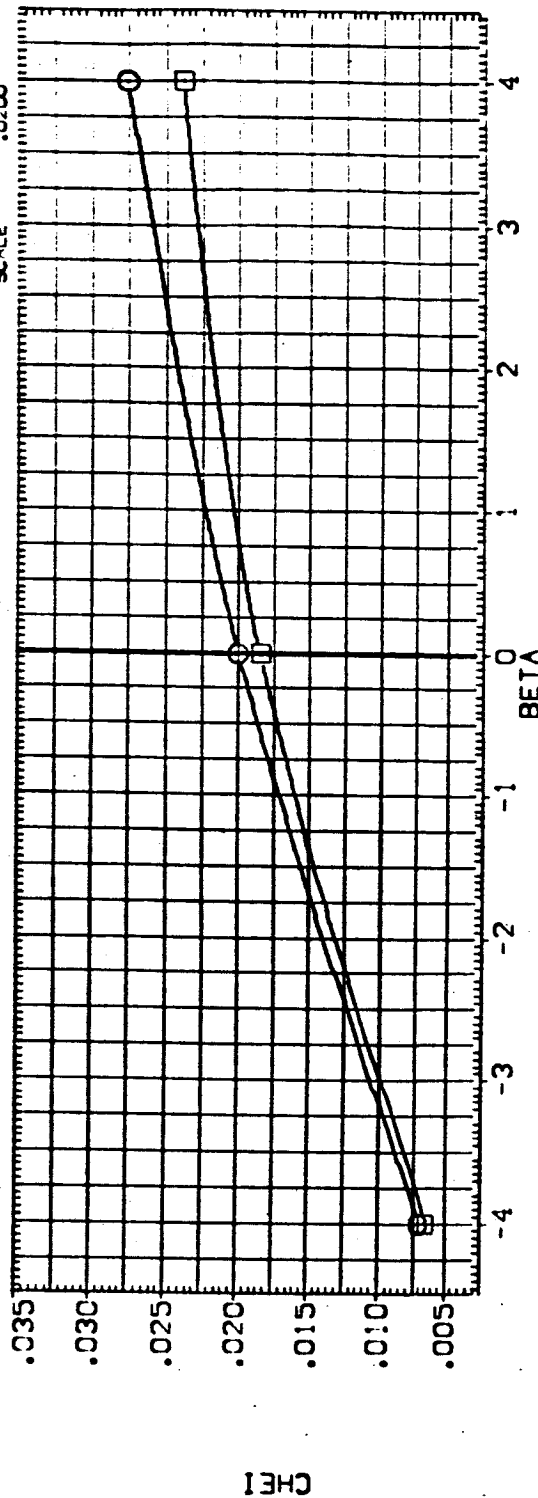


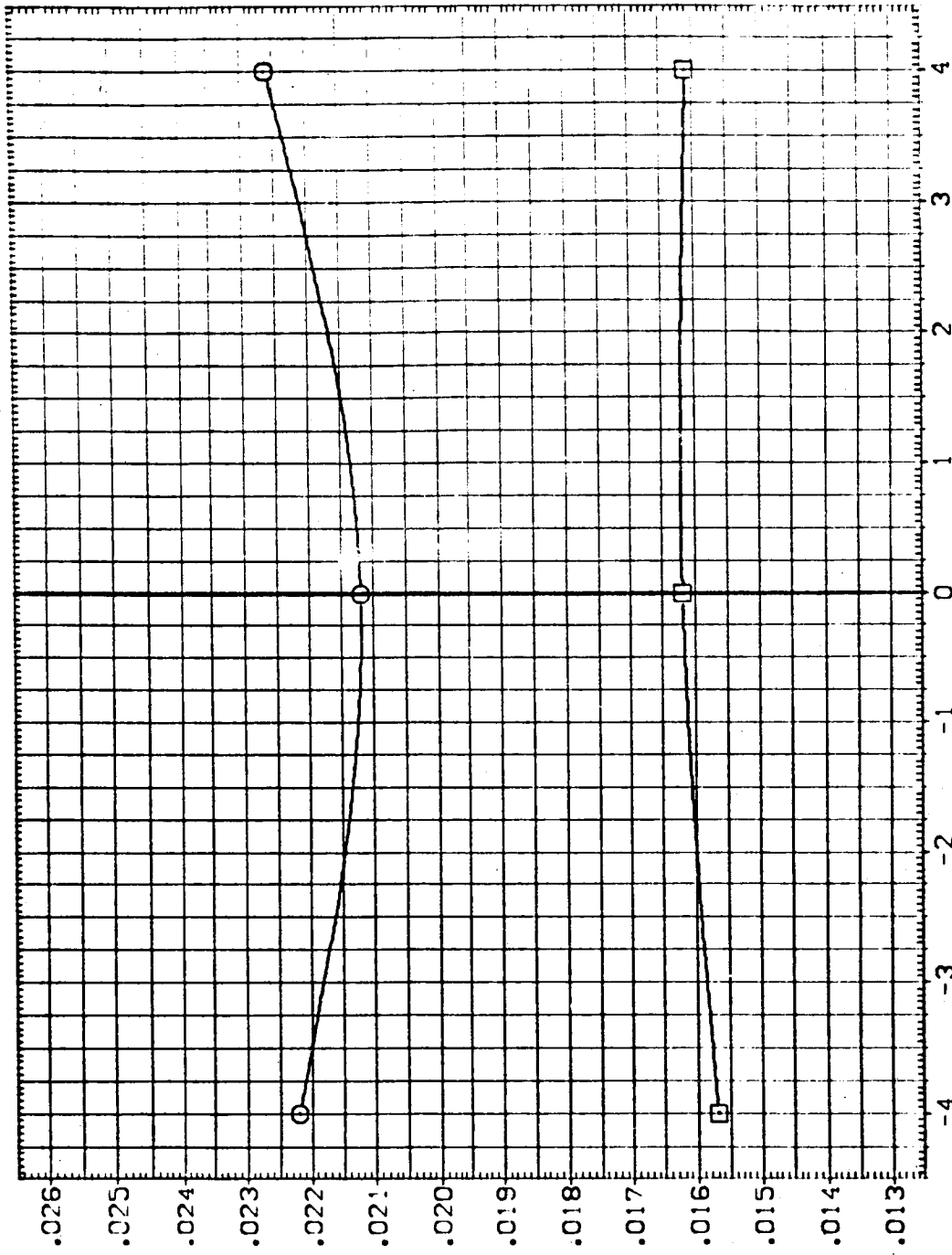
FIG. 57 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0
 (ALPHA = .00)

DATA SET SYMBOL CONFIGURATION DESCRIPTION

CELOS2) O ARC11-0141A19 DTS SR3-OFF MPS-OFF
 CELOS6) L ARC11-0141A19 DTS SR3-NOM MPS-OFF

ELV-1B ELV-0B MACH GIMBAL REFERENCE INFORMATION

8.000 4.000 1.400 1.000 SREF 2690.0000 SQ.FT.
 8.000 4.000 1.400 1.000 LREF 1290.3000 IN.
 XMRD 976.0000 IN. XI
 YMRD .0000 IN. YI
 ZMRD 400.0000 IN. ZI
 SCALE .0300

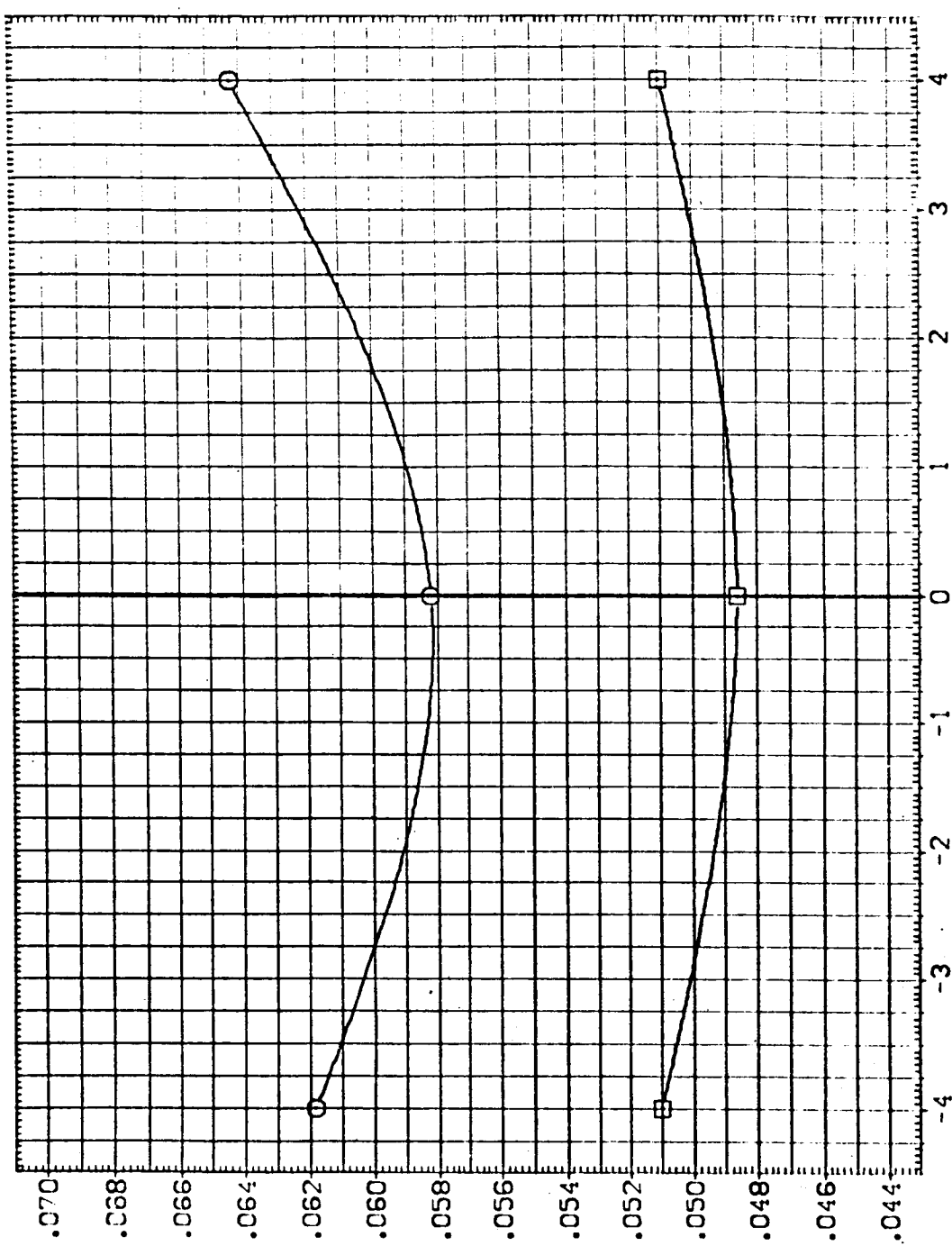


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FIG. 57 EFFECT OF PLUMES - MACH=1.4 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0

(A) ALPHA = .00

DATA SET SYMBOL: 0
 CONFIGURATION DESCRIPTION: SRB-OFF MPS-OFF
 SRB-NOM MPS-OFF
 REFERENCE INFORMATION: 50. FT.
 SREF: 2890.0000
 LREF: 1290.3000
 BREF: 1290.3000
 XMRP: 976.0000
 YMRP: 400.0000
 ZMRP: 400.0000
 SCALE: .0200



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 57 EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0
 SIDESLIP ANGLE, BETA, DEGREES
 ALPHA = .00



DATA SET SYMB. CONFIGURATION DESCRIPTION
 (EEL-043) ○ ARC11-0141A19 015 S49-N04 MPS-0FF

ELV-IB ELV-OB MACH GIMBAL
 .000 .000 .900 1.000

REFERENCE INFORMATION
 SREF 2690.0000 50.Ft.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

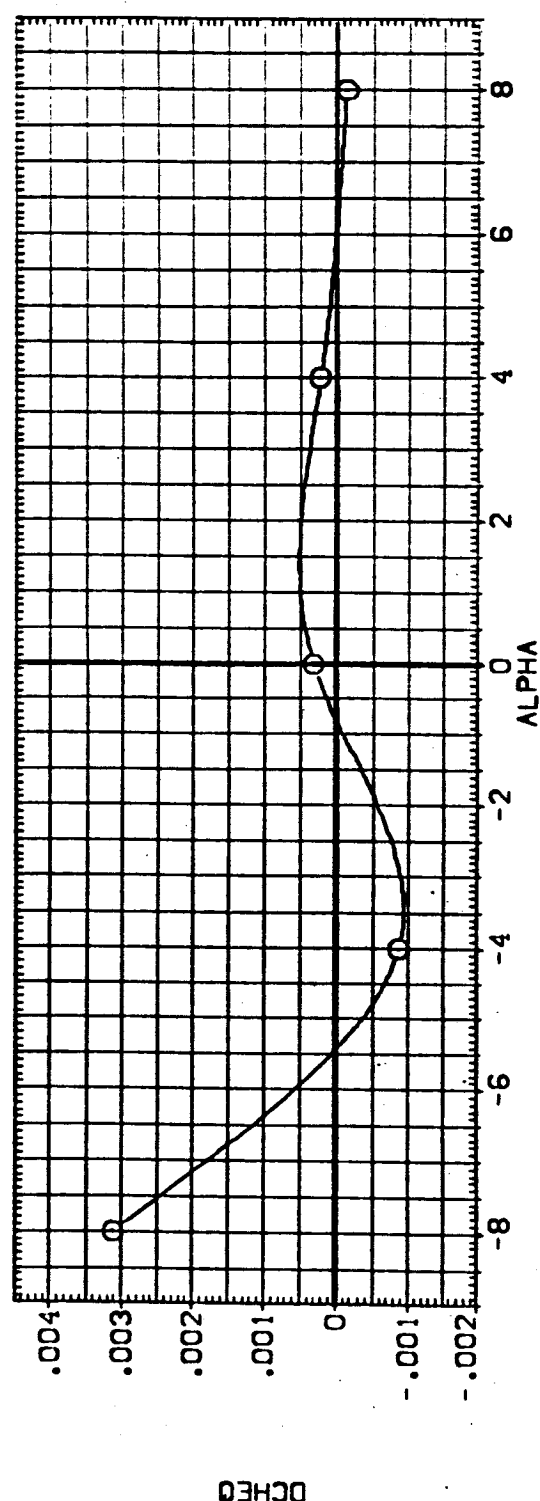
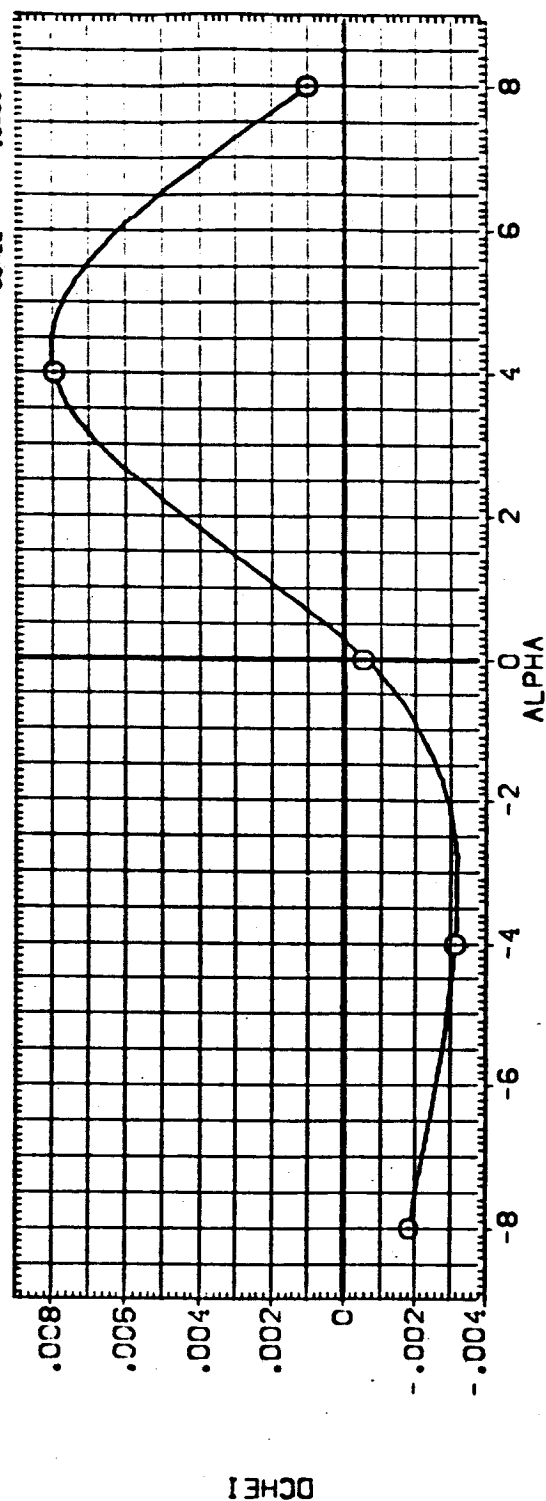


FIG. 58 INCREMENTAL EFFECT OF PLUMES - MACH=0.9 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0
 CABETA = .00

DATA SET SYMBOL: CONFIGURATION DESCRIPTION: SPS-NOM MPS-OFF

ELV-18 ELV-08 MACH GIMBAL REFERENCE INFORMATION
 .000 .000 1.100 1.000
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE 400.0000
 .0200

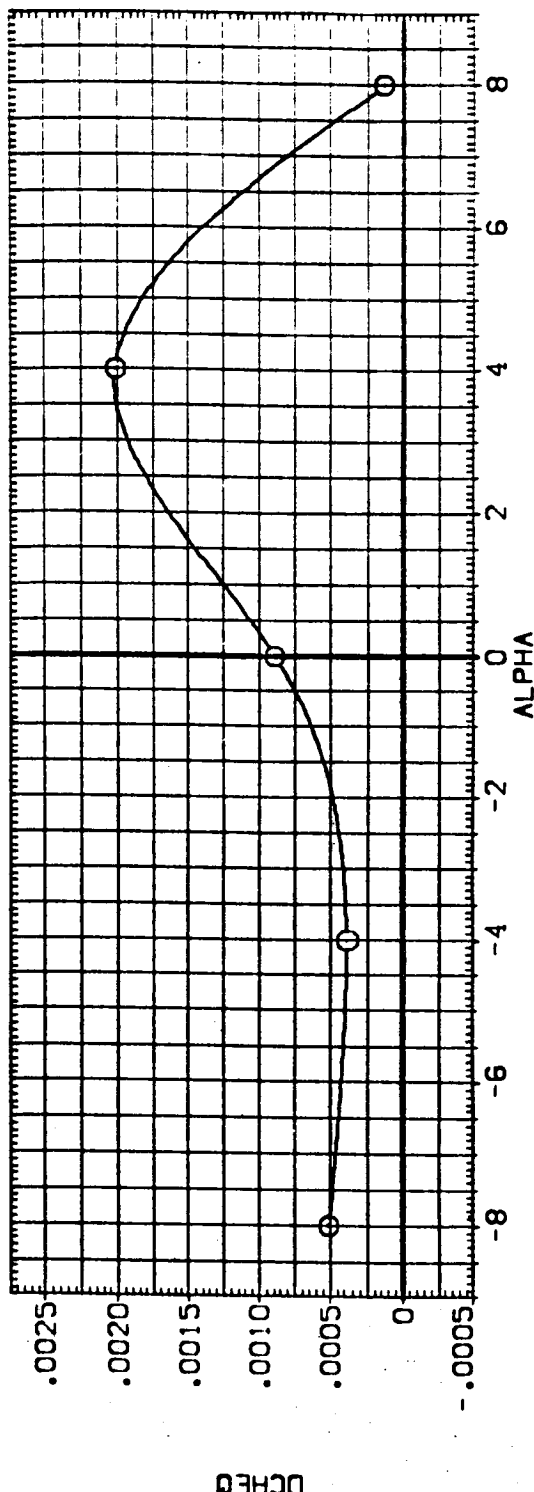
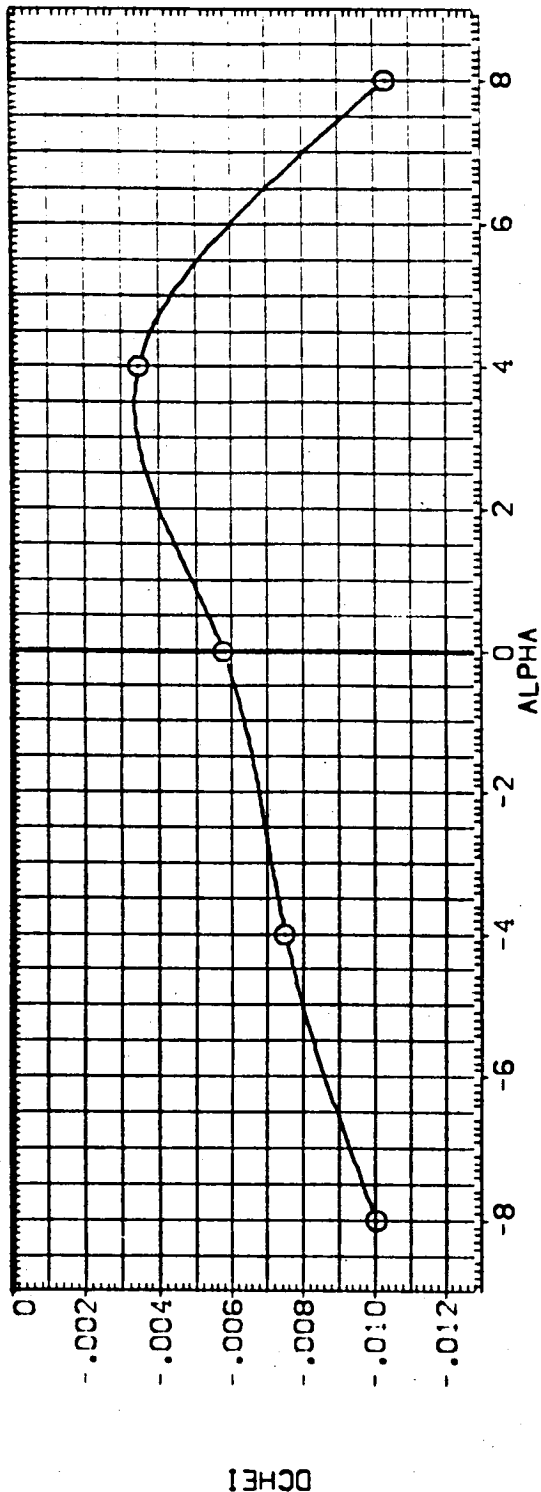


FIG. 59 INCREMENTAL EFFECT OF PLUMES - MACH=1.1 ELV-18=0.0 ELV-08=0.0 BETA=0.0
 (A) BETA = .00

DATA SET SYMBOL: ARC11-0141A19 01S SRB-NOM MPS-OFF

ELV-18 .000 ELV-08 .000 MACH 1.250 GIMBAL 1.000

REFERENCE INFORMATION
 SREF 2630.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 576.0000 IN.
 YMRP .0000 IN.
 ZMRP 400.0000 IN.
 SCALE .0200

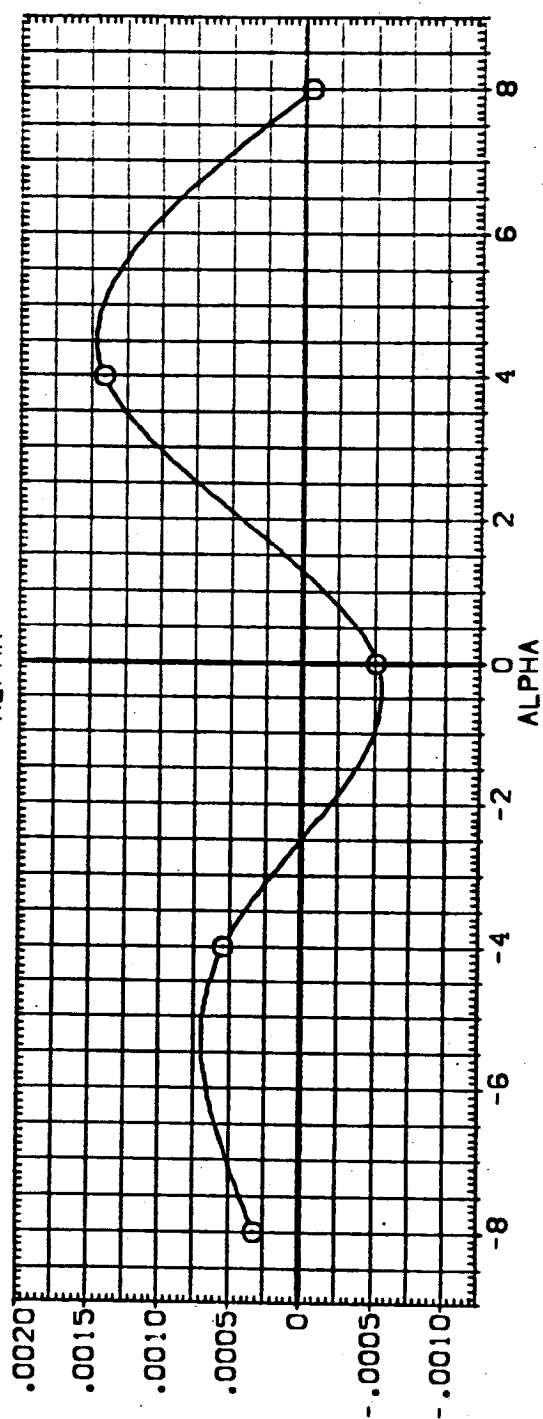
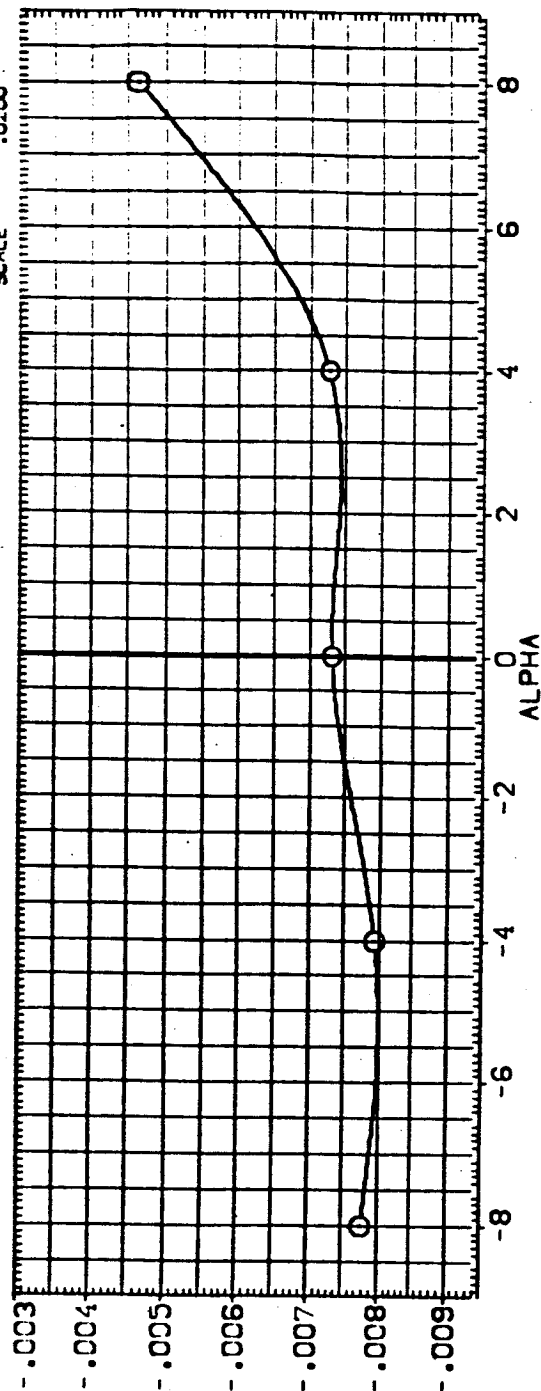


FIG. 60 INCREMENTAL EFFECT OF PLUMES - MACH=1.25 ELV-18=0.0 ELV-08=0.0 BETA=0.0
 CAJBETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
(SEEJC46) O ARC11-0141A19 DTS SRB-NOM MPS-OFF

ELV-IB. ELV-OB MACH GIMBAL

REFERENCE INFORMATION
SREF 2690.0000 SO.FT.
LREF 1290.3000 IN.
BREF 1290.3000 IN.
XMRP 976.0000 IN. XT
YMRP .0000 IN. YT
ZMRP 400.0000 IN. ZT
SCALE .0200

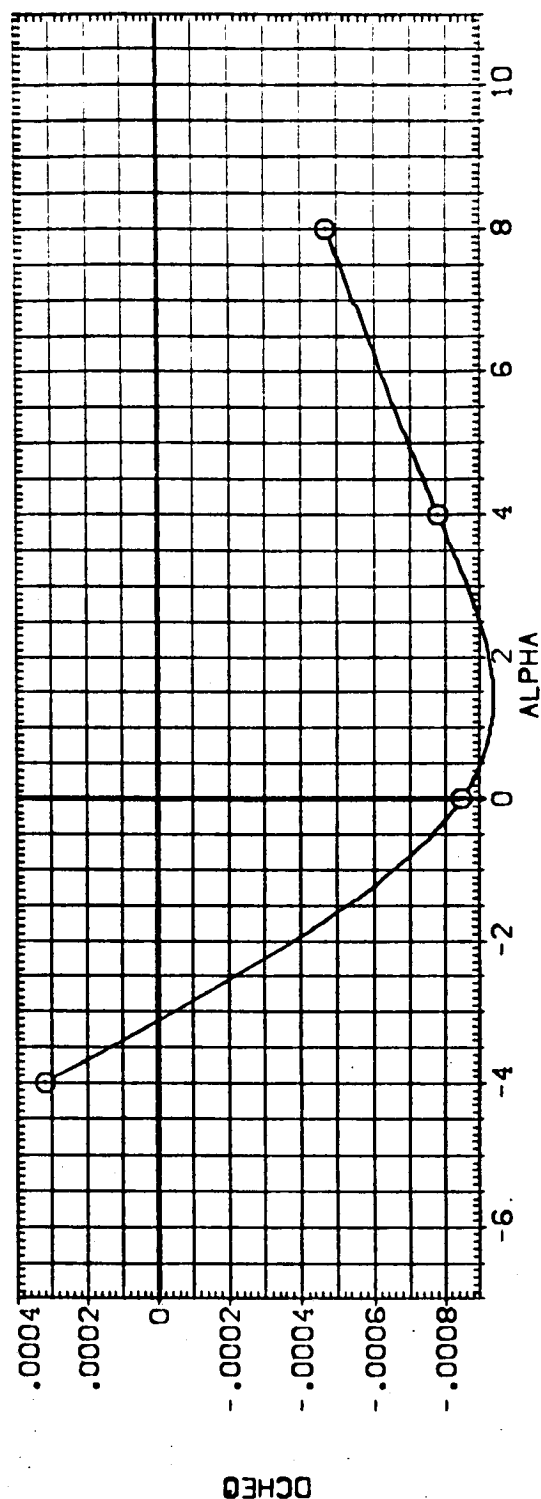
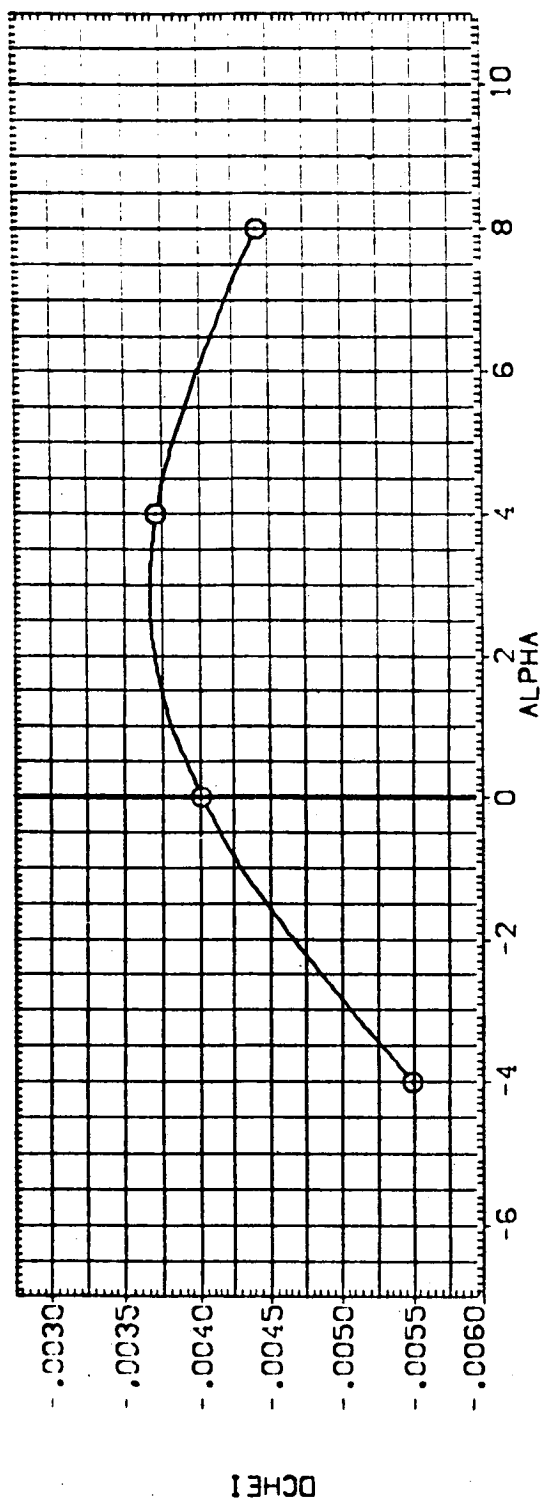


FIG. 61 INCREMENTAL EFFECT OF PLUMES - MACH=1.4 ELV-IB=0.0 ELV-OB=0.0 BETA=0.0
(A) BETA = .00



DATA SET SYMBOL: CONFIGURATION DESCRIPTION: REFERENCE INFORMATION

[FEJ043] ○ ARC11-0141A19 QTS SRB-NOM MPS-OFF

SRB	ELV-IB	ELV-OB	MACH	GIMBAL	SRB	50.FT.
REF	.000	.000	.500	1.000	REF	2690.0000
LREF					LREF	1290.3000
BREF					BREF	1290.3000
XMRP					XMRP	976.0000
YMRP					YMRP	.0000
ZMRP					ZMRP	400.0000
SCALE					SCALE	.0200

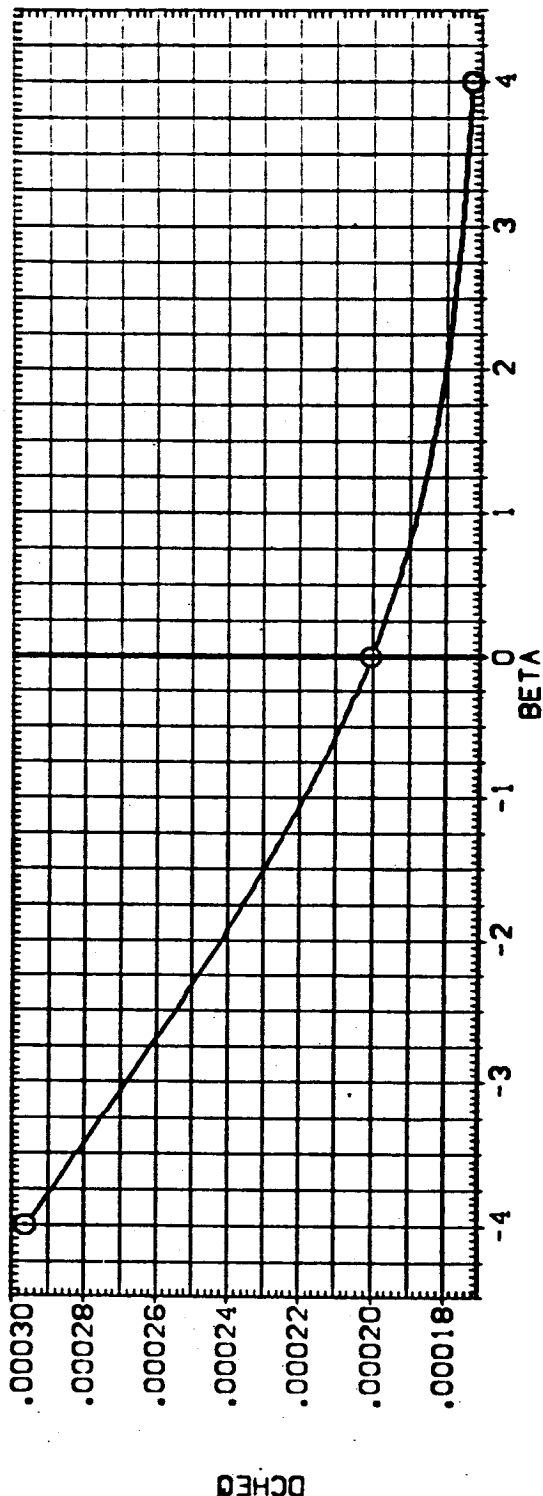
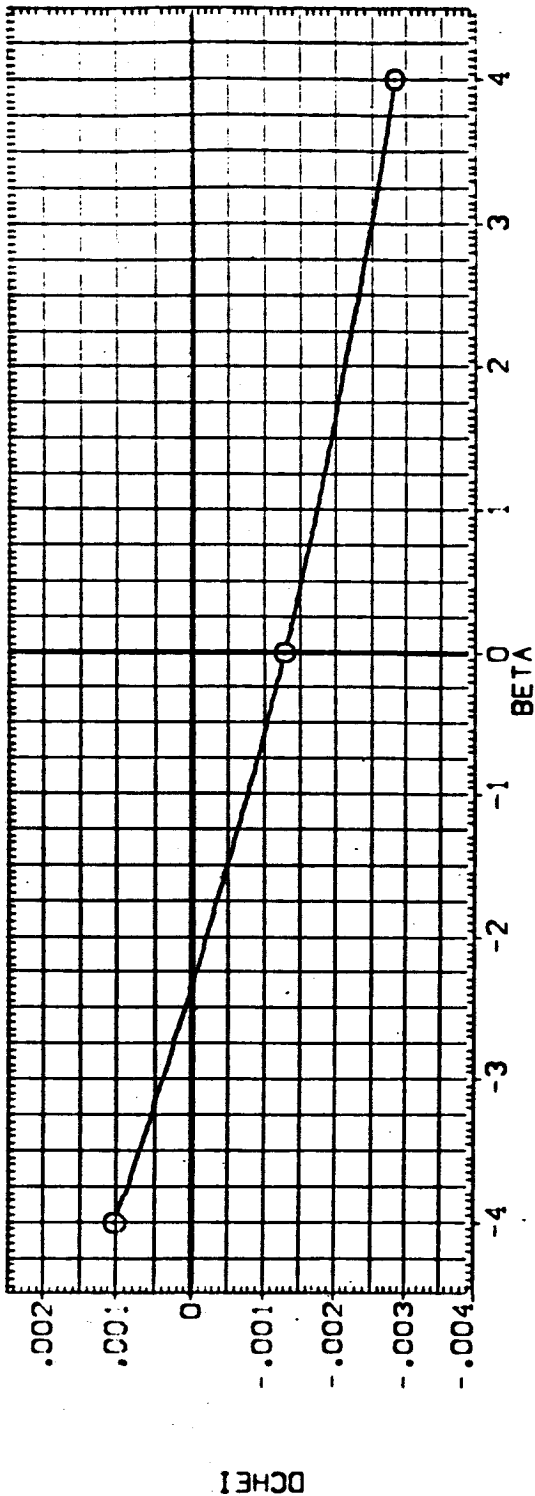


FIG. 62 INCREMENTAL EFFECT OF PLUMES - MACH=0.9 ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.0

CALPHA = .00

DATA SET SYMBOL: (FEUC44) \bigcirc CONFIGURATION DESCRIPTION: SRB-NOM MPS-OFF

ELV-IB: .000 ELV-OB: .000 MACH: 1.100 GIMBAL: 1.000

REFERENCE INFORMATION:
 SREF: 2690.0000 SQ.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN.
 X-MOP: 576.0000 IN.
 Y-MOP: .0000 IN.
 Z-MOP: 400.0000 IN.
 SCALE: .0200

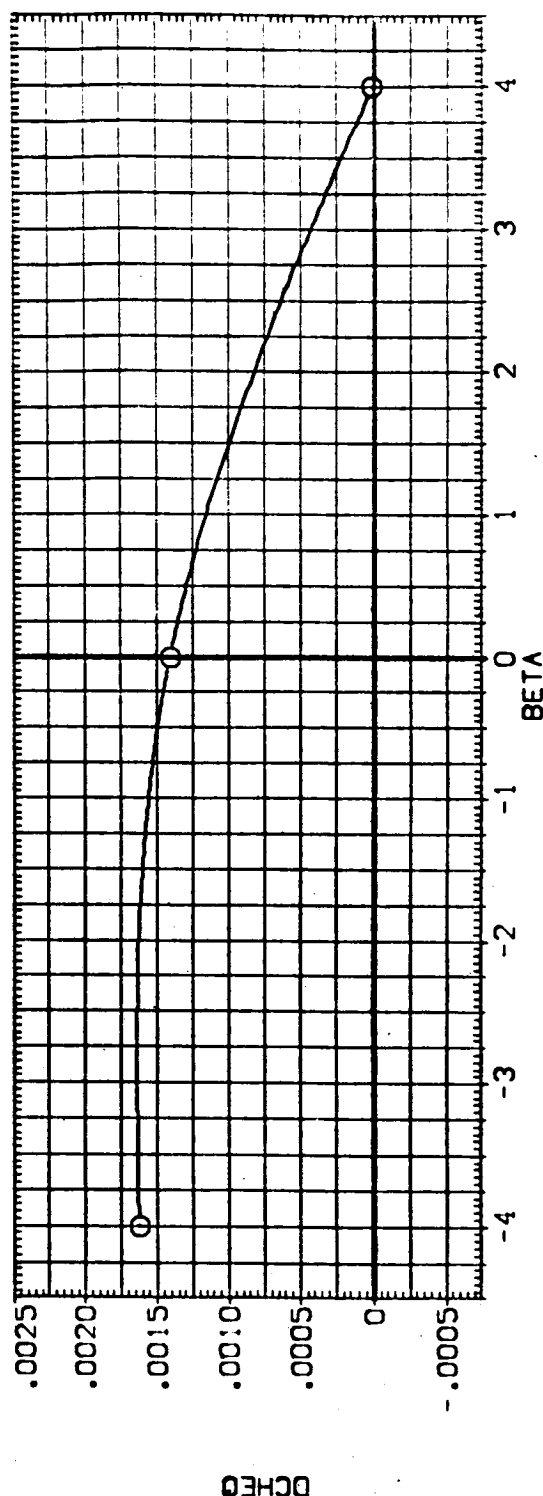
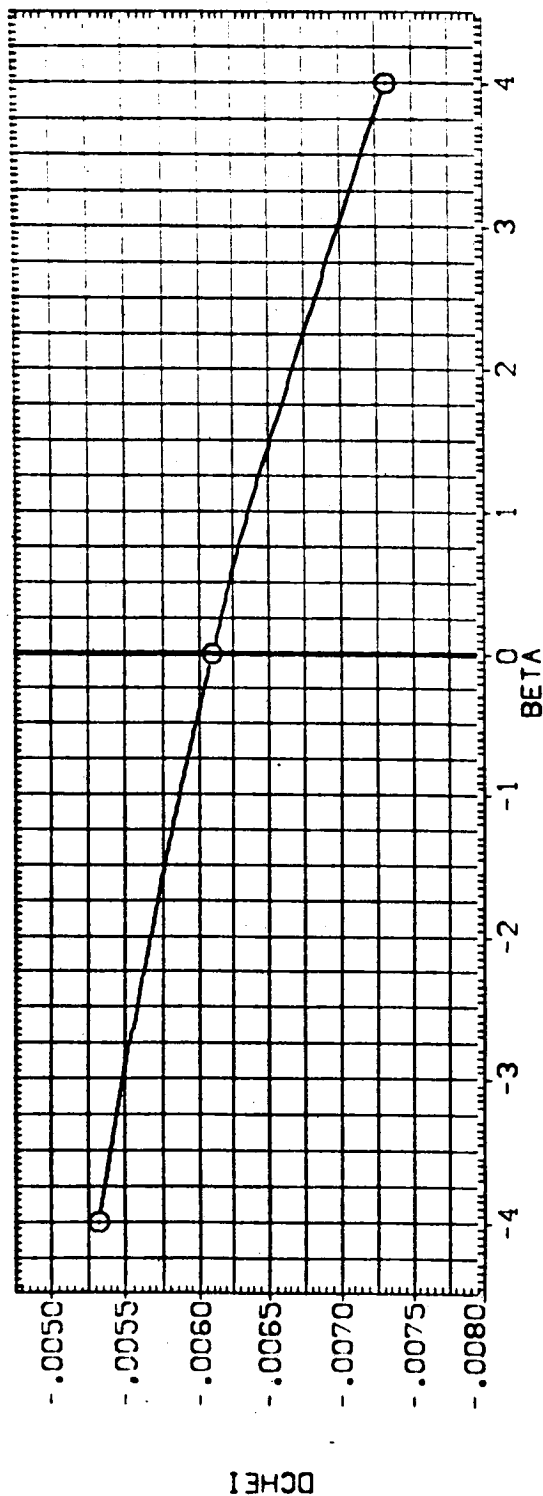


FIG. 63 INCREMENTAL EFFECT OF PLUMES - MACH=1.1 ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.

(A) ALPHA = .00



DATA SET SYMBOL: (FEJ045) ○ CONFIGURATION DESCRIPTION: ARC11-0141A19 QTS SPS-NOM MPS-OFF

ELV-1B .000 ELV-08 .000 MACH 1.250 GIMBAL 1.000

REFERENCE INFORMATION:
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 100.0000 IN. ZT
 SCALE .0200

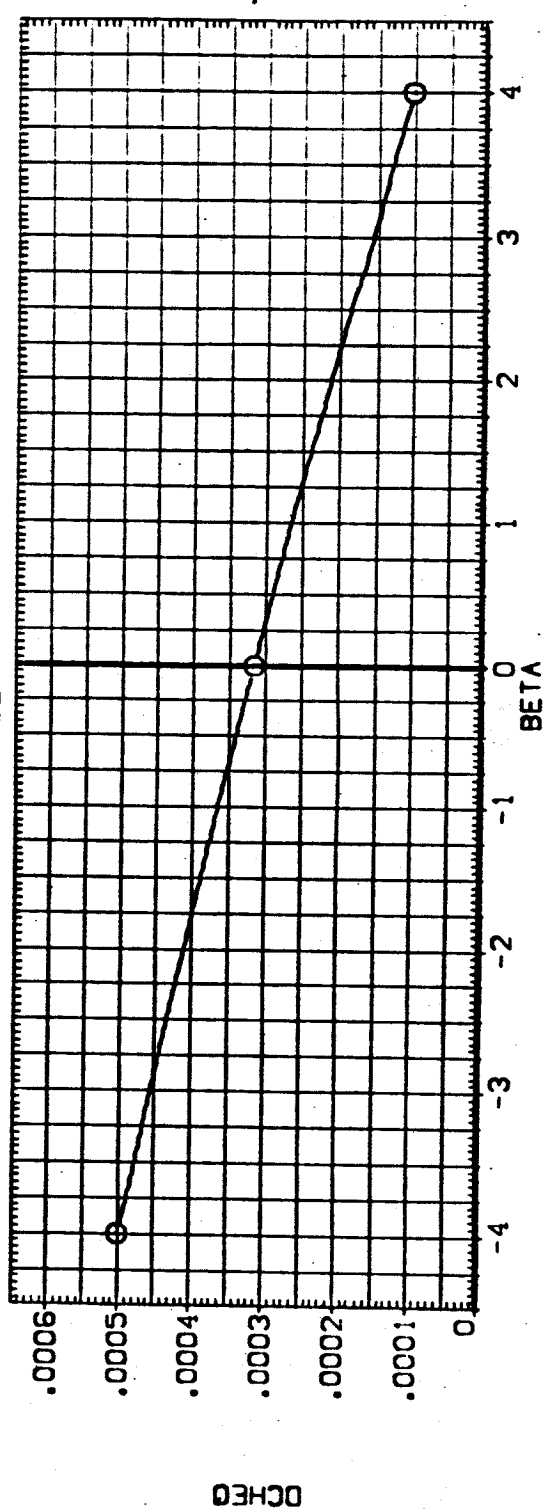
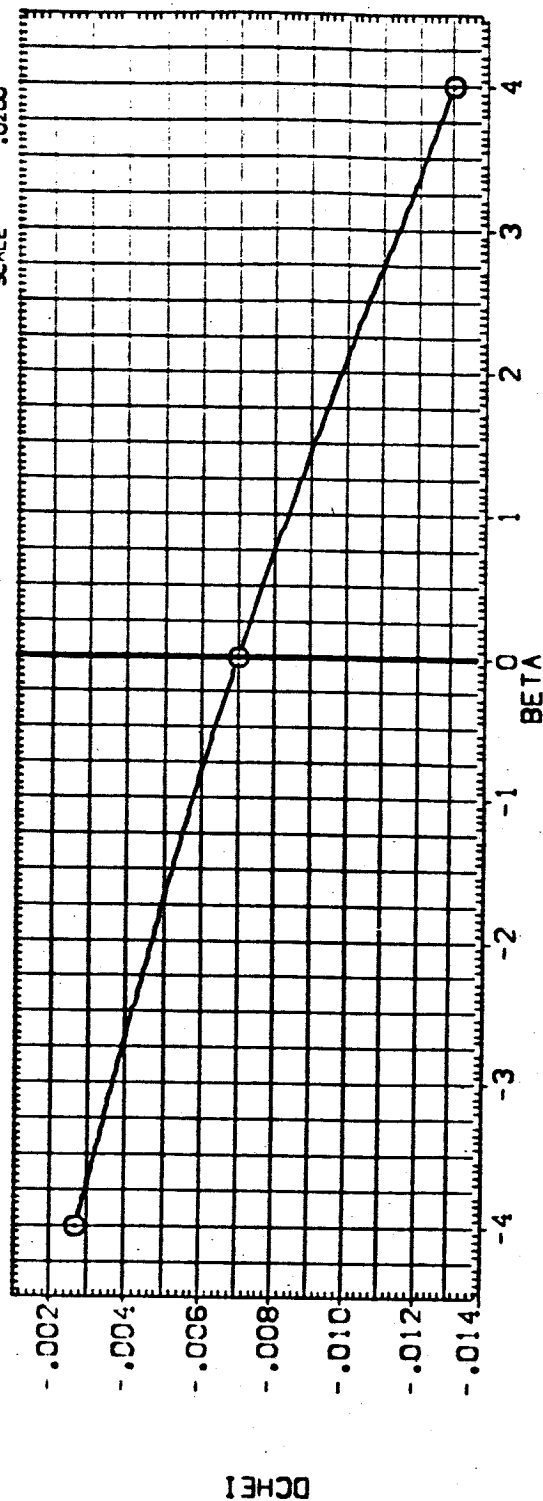


FIG. 64 INCREMENTAL EFFECT OF PLUMES - MACH=1.25 ELV-1B=0.0 ELV-08=0.0 ALPHA=0.0
 (A) ALPHA = .00

DATA SET SYMBOL: 0141A19 OTS S98-NOM MPS-OFF

ELV-IB ELV-OB MACH GIMBAL

REFERENCE INFORMATION
 SREF 2630.0000 SQ.FT.
 LREF 1230.3000 IN.
 BREF 1230.3000 IN.
 XMRP 976.0000 IN.
 YMRP 400.0000 IN.
 ZMRP 400.0000 IN.
 SCALE .0200

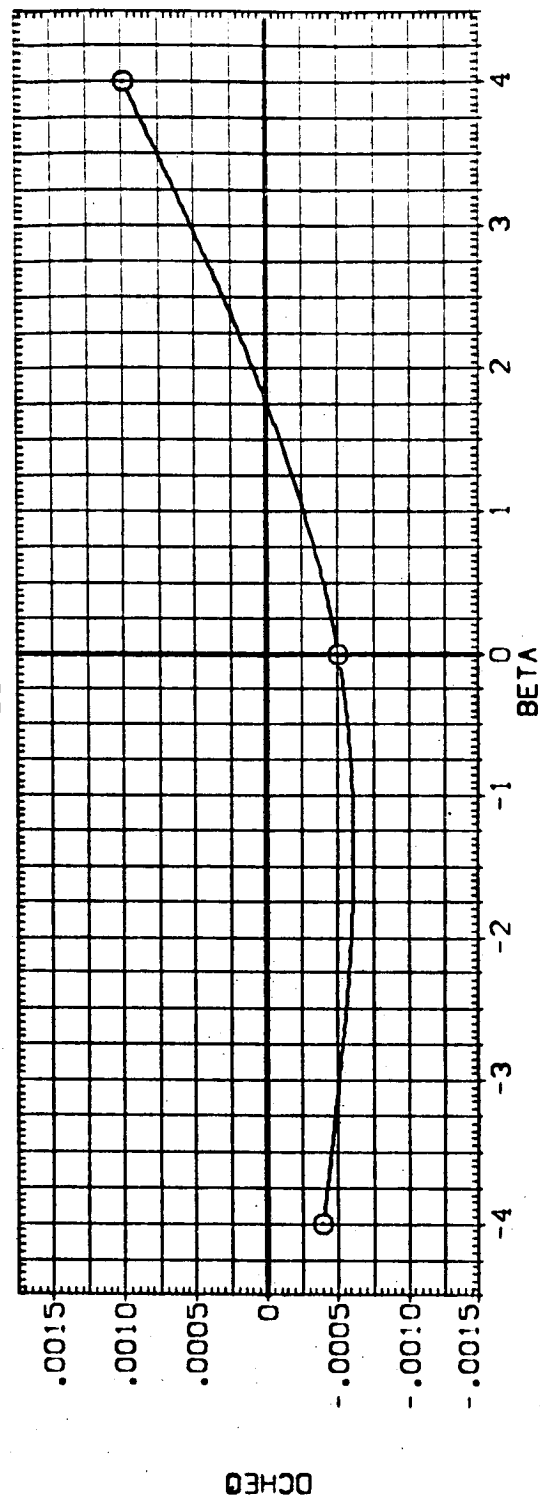
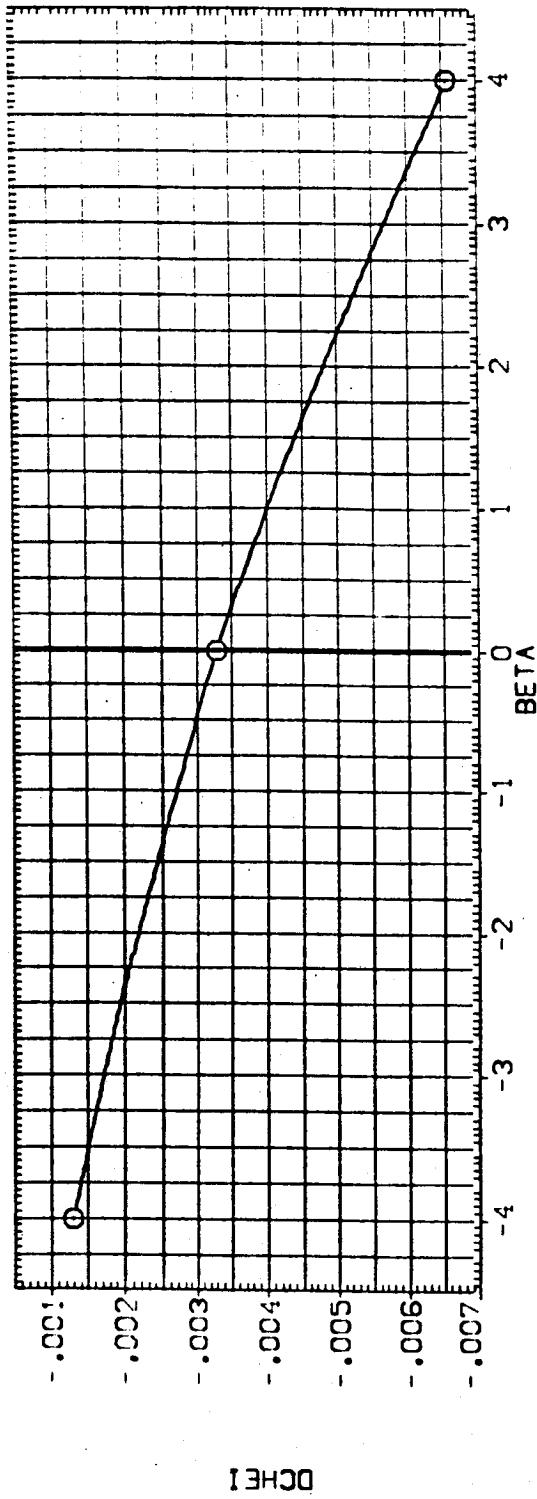


FIG. 65 INCREMENTAL EFFECT OF PLUMES - MACH=1.4 ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.0

CALPHA = .00

DATA SET SYMBOL: (EEL018) \bigcirc CONFIGURATION DESCRIPTION: ARC11-0141A19 DTS SRB-NOM MPS-OFF

ELV-IB: 8.000 ELV-OB: .000 MACH: 1.400 GIMBAL: 1.000

REFERENCE INFORMATION:

SRB	SRB REF	SRB	SRB REF	SRB	SRB REF	SRB	SRB REF
2680.0000	2680.0000	2680.0000	2680.0000	2680.0000	2680.0000	2680.0000	2680.0000
1290.3000	1290.3000	1290.3000	1290.3000	1290.3000	1290.3000	1290.3000	1290.3000
976.0000	976.0000	976.0000	976.0000	976.0000	976.0000	976.0000	976.0000
400.0000	400.0000	400.0000	400.0000	400.0000	400.0000	400.0000	400.0000
SCALE	SCALE	SCALE	SCALE	SCALE	SCALE	SCALE	SCALE
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

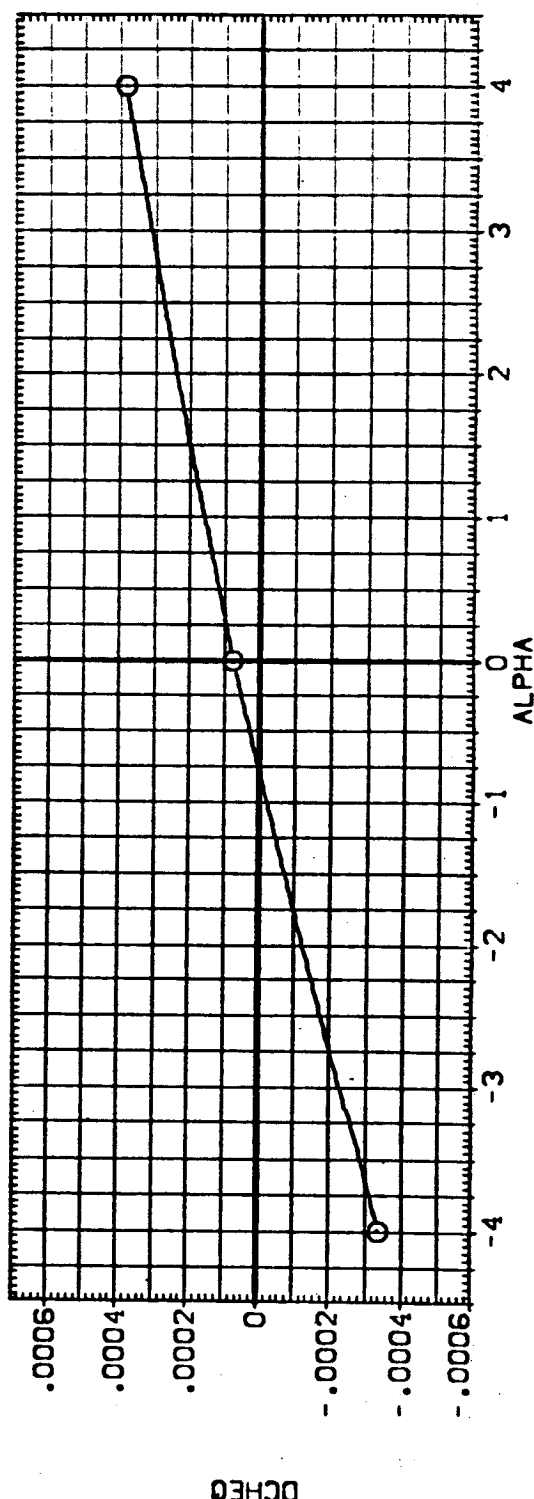
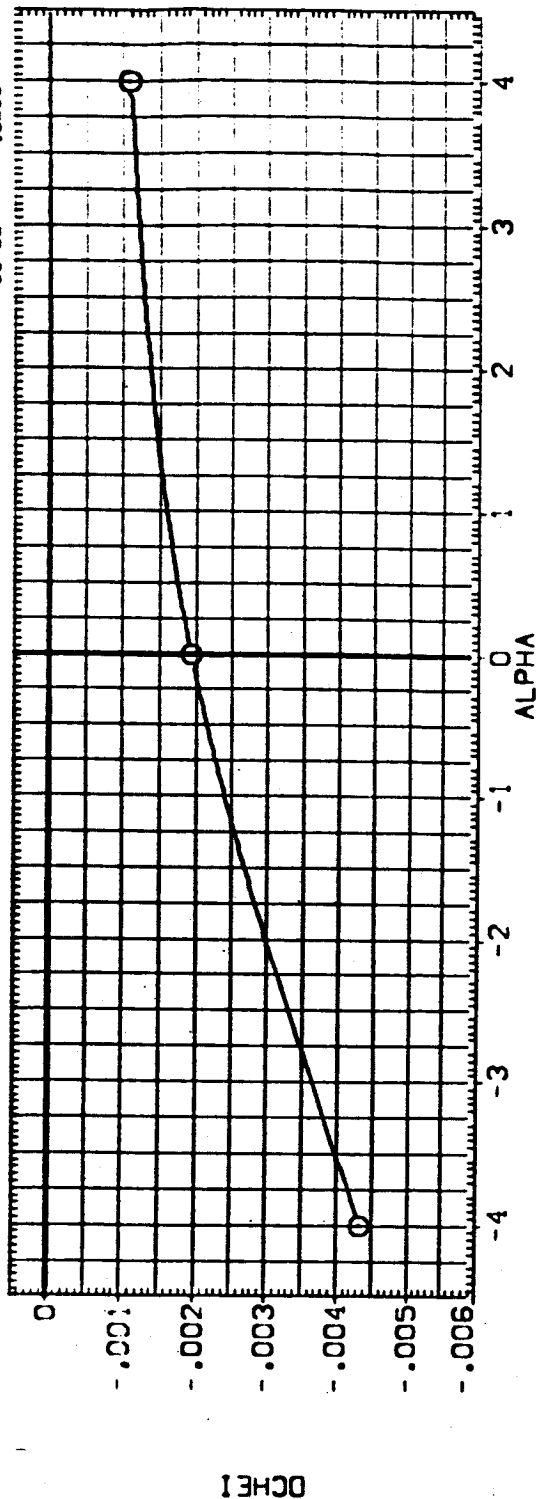


FIG. 66 INCREMENTAL EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=0.0 BETA=0.0
 (A) BETA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	SRS-
(FEL048)	ARC11-0141A:9 DTS	SRS-

ARC:1-0141A:9 QTS 330-NON MSG-OFF

REFERENCE INFORMATION	
	SG.F.T.
SREF	2890.0000
LREF	1290.3000
BREF	1290.3000
YREF	576.0000
ZMRP	400.0000
SCALE	0.0700

ELV-18	ELV-08	MACH	GIMBAL
8.000	.000	1.400	1.000

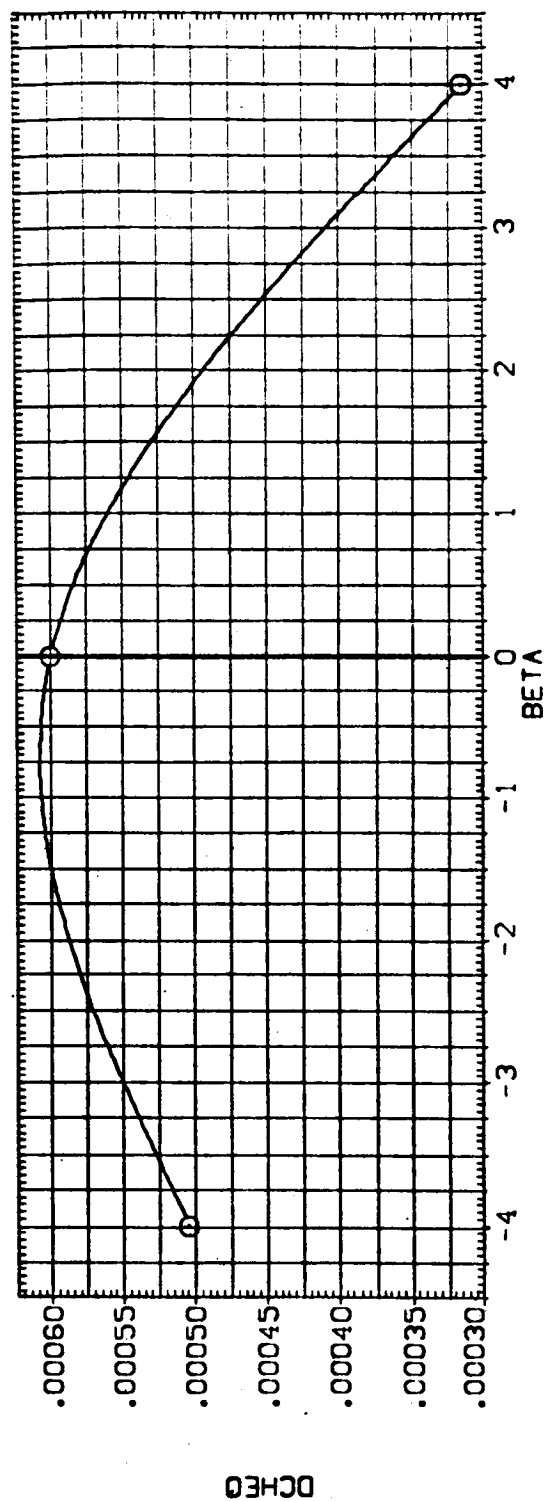
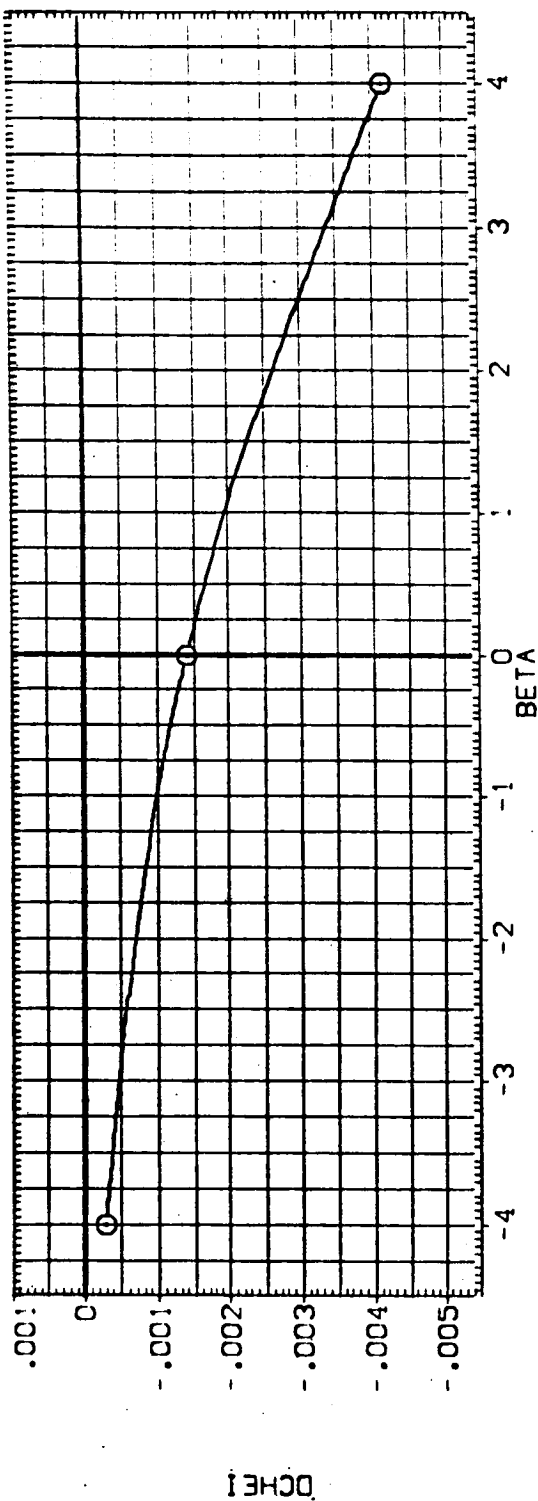


FIG. 67 INCREMENTAL EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=0.0 ALPHA=0.
(A) ALPHA = .00 PAGE 172

DATA SET SYMBOL: \bigcirc CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS S98-NOM MPS-OFF

ELV-18: 6.000 ELV-08: 4.000 MACH: .900 GIMBAL: 1.000

REFERENCE INFORMATION:

PARAMETER	VALUE	UNIT
SREF	2690.0000	IN.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
YMRP	976.0000	IN.
ZMRP	100.0000	IN.
SCALE	.0200	

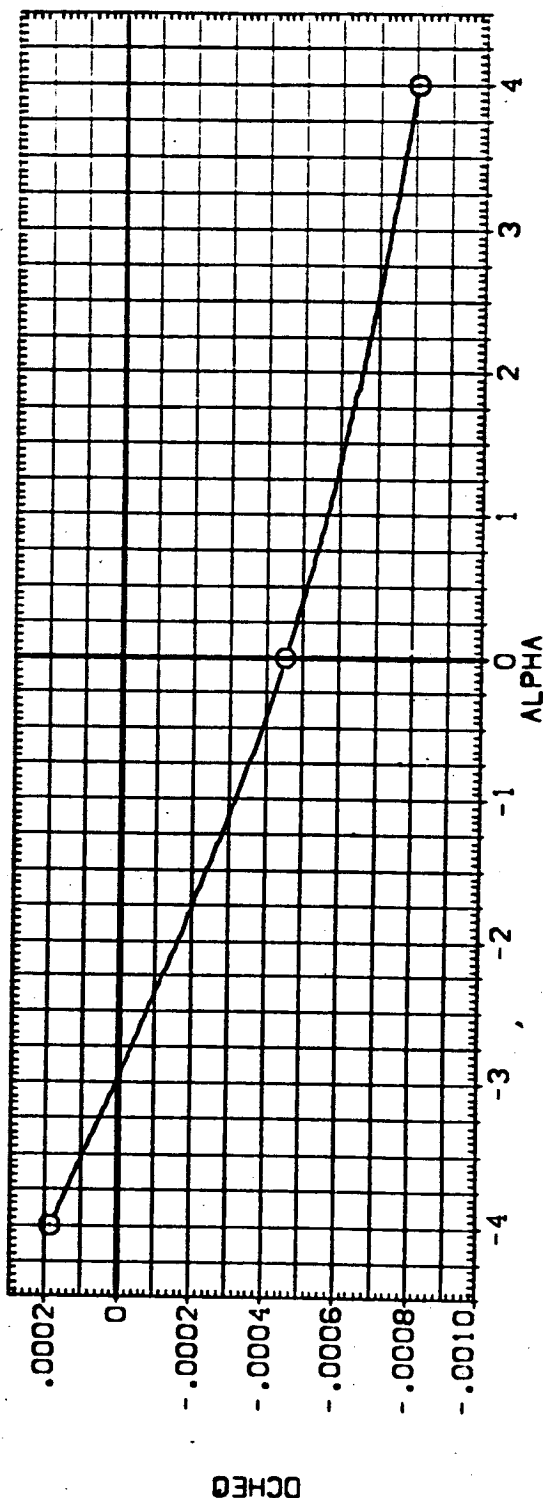
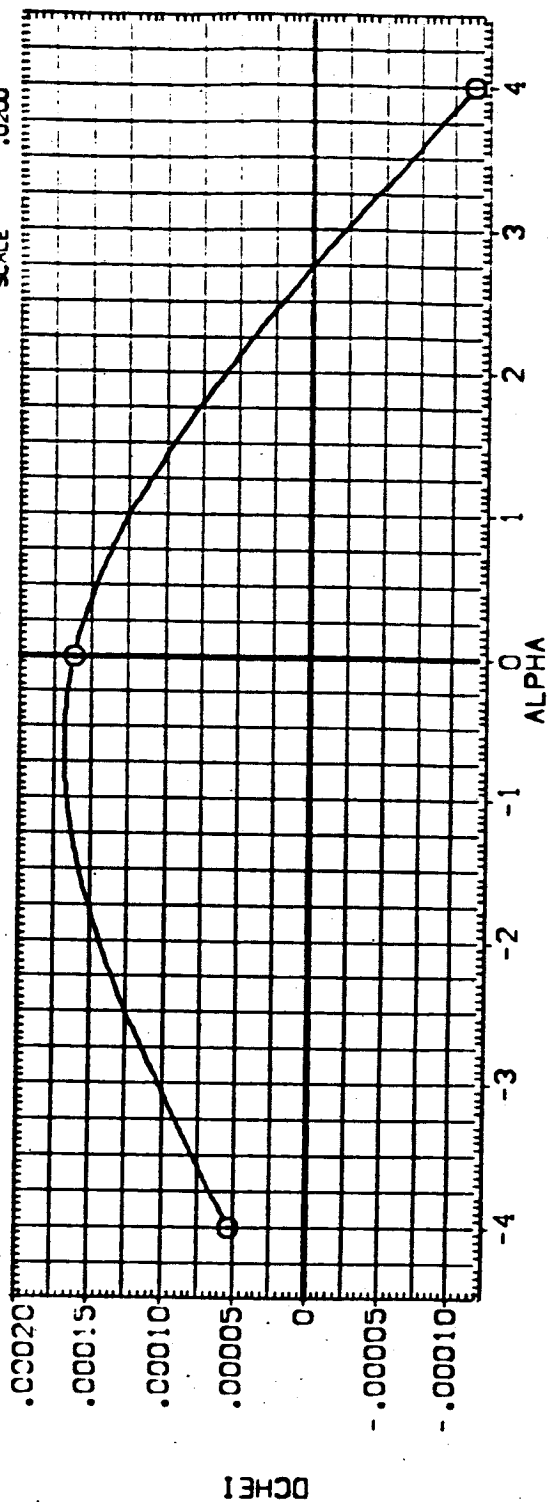


FIG. 68 INCREMENTAL EFFECT OF PLUMES - MACH=0.9 ELV-18=8.0 ELV-08=4.0 BETA=0.0
 (A) BETA = .00

DATA SET SYMBOL: (EEL054) 0

CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS

SRB-NOM MPS-OFF

ELV-1B: 8.000

ELV-0B: 4.000

MACH: 1.100

GIMBAL: 1.000

REFERENCE INFORMATION:

	REF	2690.0000	SQ.FT.
SREF	2690.0000	IN.	
LREF	1290.3000	IN.	
BREF	1290.3000	IN.	
XMRP	976.0000	IN.	XT
YMRP	0.0000	IN.	YT
ZMRP	400.0000	IN.	ZT
SCALE	0.0200		

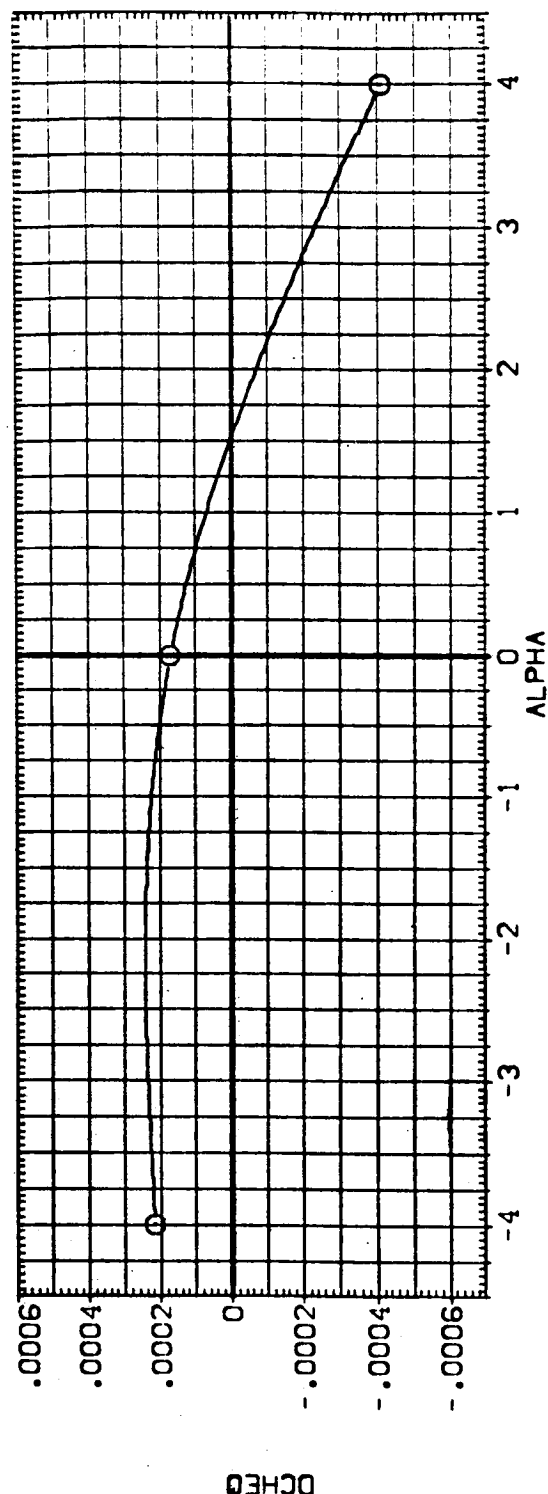
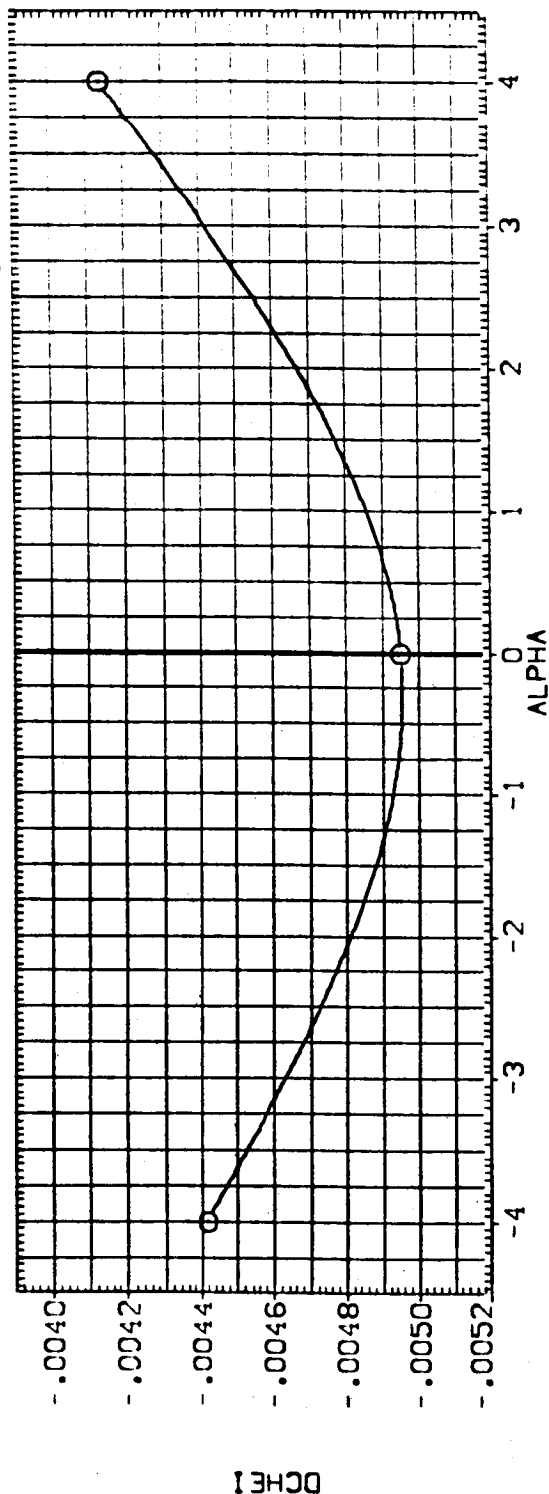


FIG. 69 INCREMENTAL EFFECT OF PLUMES - MACH=1.1 ELV-1B=8.0 ELV-0B=4.0 BETA=0.0

CABETA = .00

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CONFIGURATION DESCRIPTION	SFB-NOM	MPS-OFF
ARC11-0141A19 OTS		

ELV-1B	ELV-0B	MACH	GIMBAL
8.000	4.000	1.250	1.000

REFERENCE INFORMATION	
SREF	2690.0000 SQ. FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	576.0000 IN. XT
YMRP	.0000 IN. YT
ZMRP	400.0000 IN. ZT
SCALE	.0200

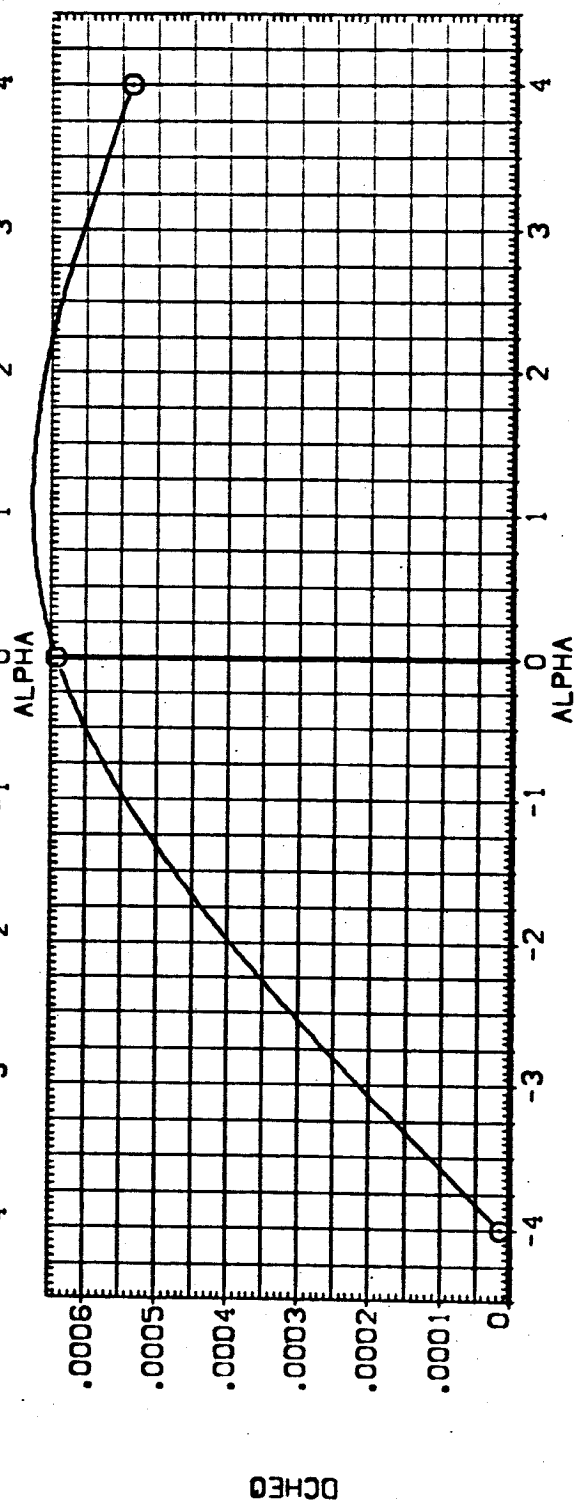
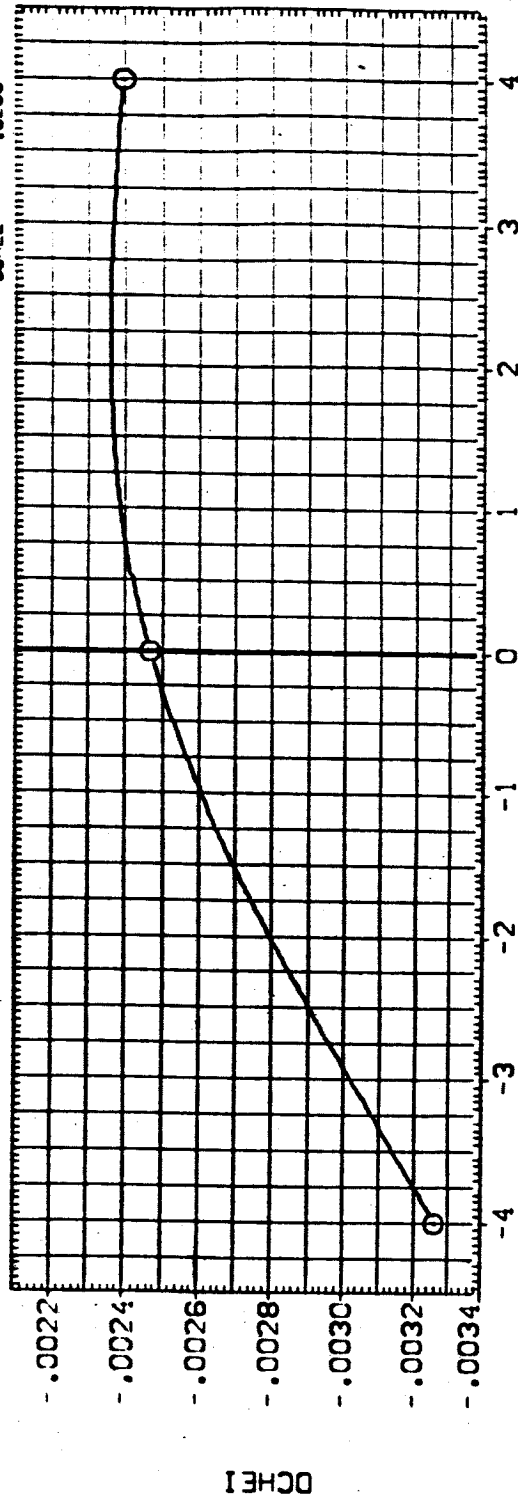


FIG. 70 INCREMENTAL EFFECT OF PLUMES - MACH=1.25 ELV-IB=8.0 ELV-OB=4.0 BETA=0.0
(A)BETA = .00 PAGE 175

DATA SET SYMBOL: \bigcirc CONFIGURATION DESCRIPTION: SRB-NOM MPS-OFF
 (EELCS6) ARC11-0141A19 OTS

ELV-IB 8.000 ELV-OB 4.000 MACH 1.100 GIMBAL 1.000

REFERENCE INFORMATION:
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN. XT
 XMRP 976.0000 IN. YT
 YMRP .0000 IN. ZT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

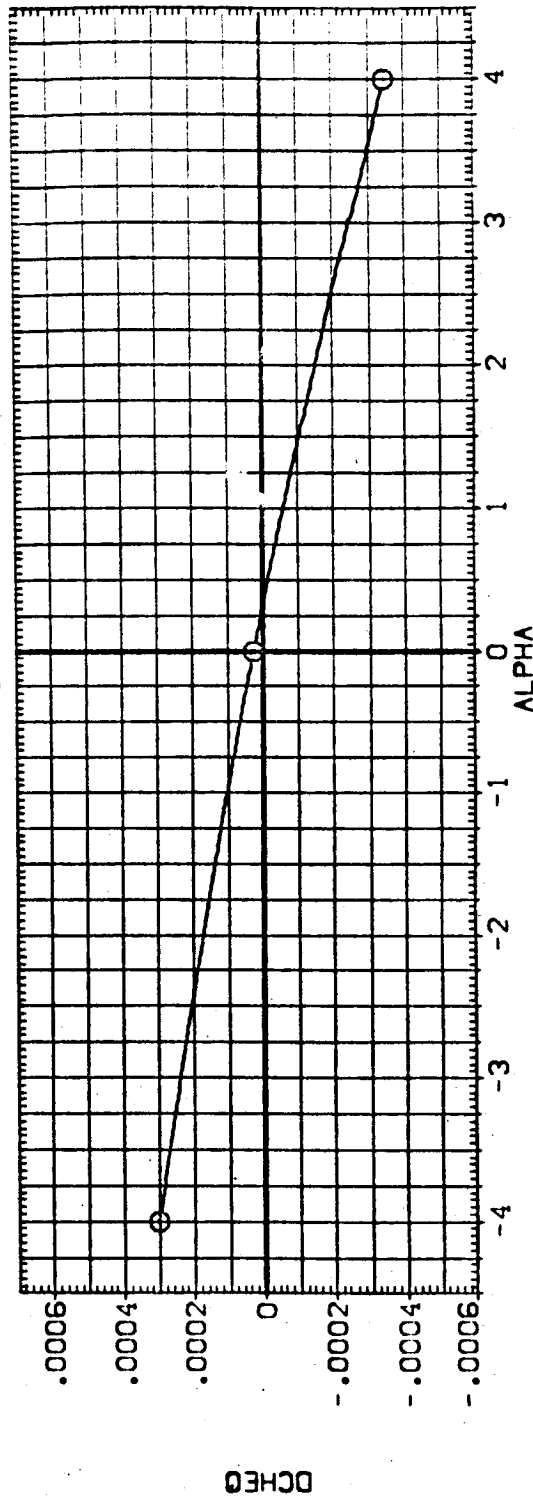
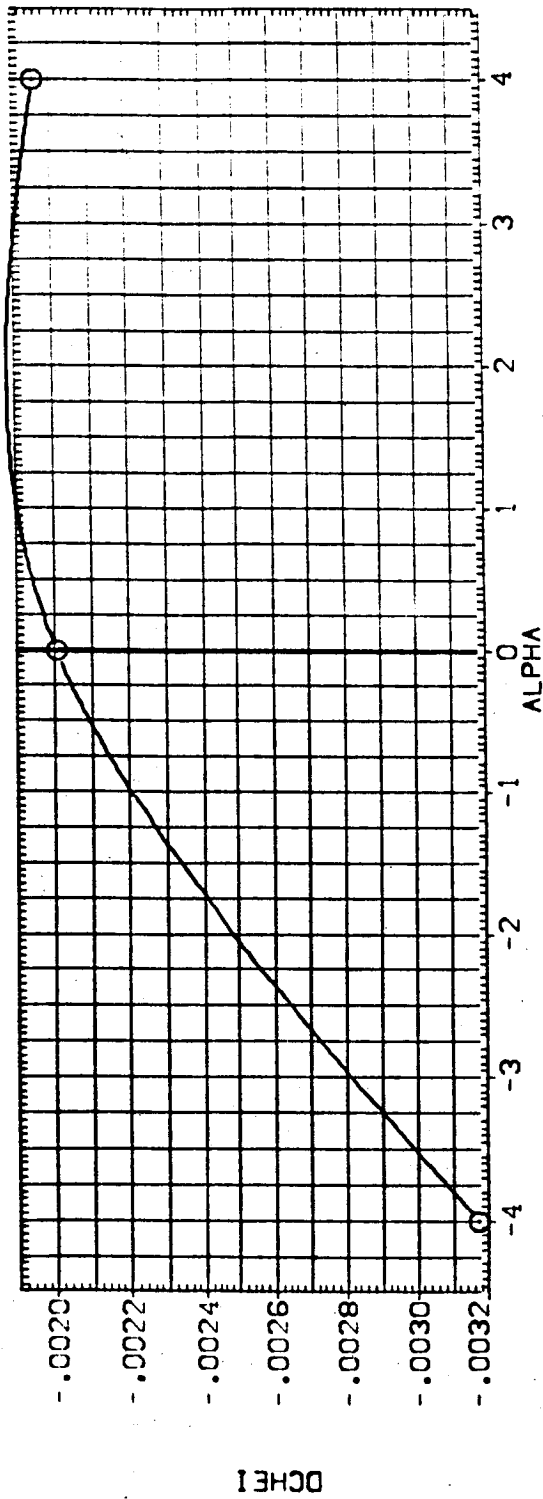


FIG. 71 INCREMENTAL EFFECT OF PLUMES - MACH=1.4 ELV-IB=8.0 ELV-OB=4.0 BETA=0.0
 CAJBETA = .00

DATA SET SYMBOL: (FEL053) O CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS S98-NOM MPS-0FF

ELV-1B 8.000 ELV-0B 4.000 MACH .900 GIMBAL 1.000

REFERENCE INFORMATION

SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN.
YMRP	400.0000	IN.
ZMRP	400.0000	IN.
SCALE	.0200	

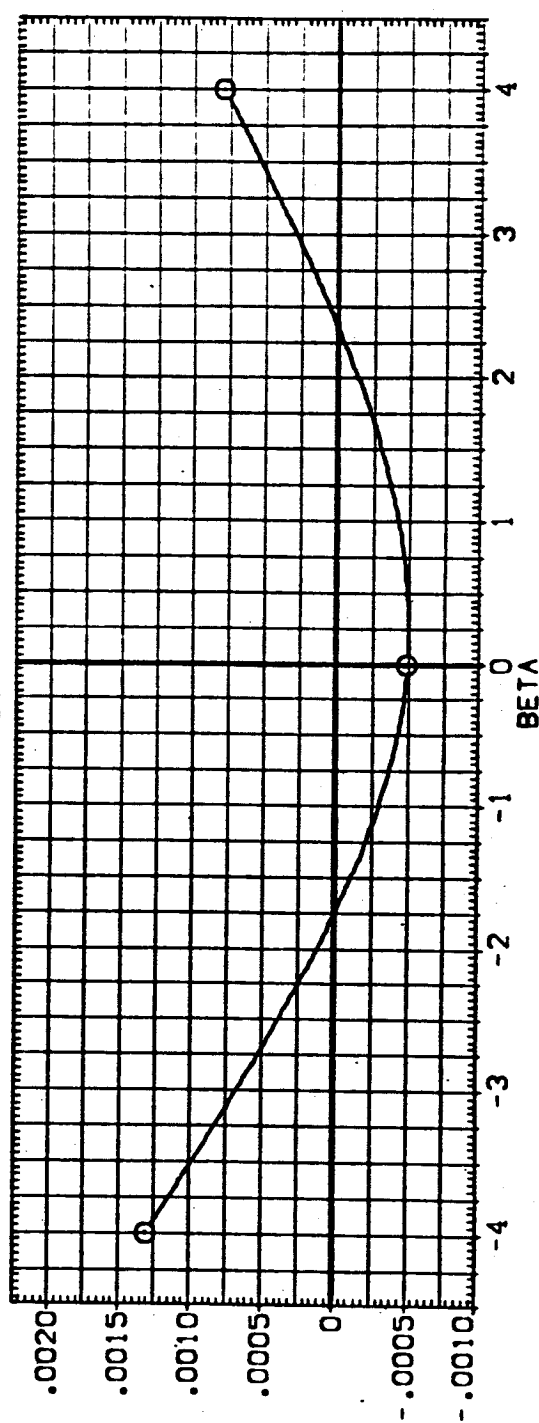
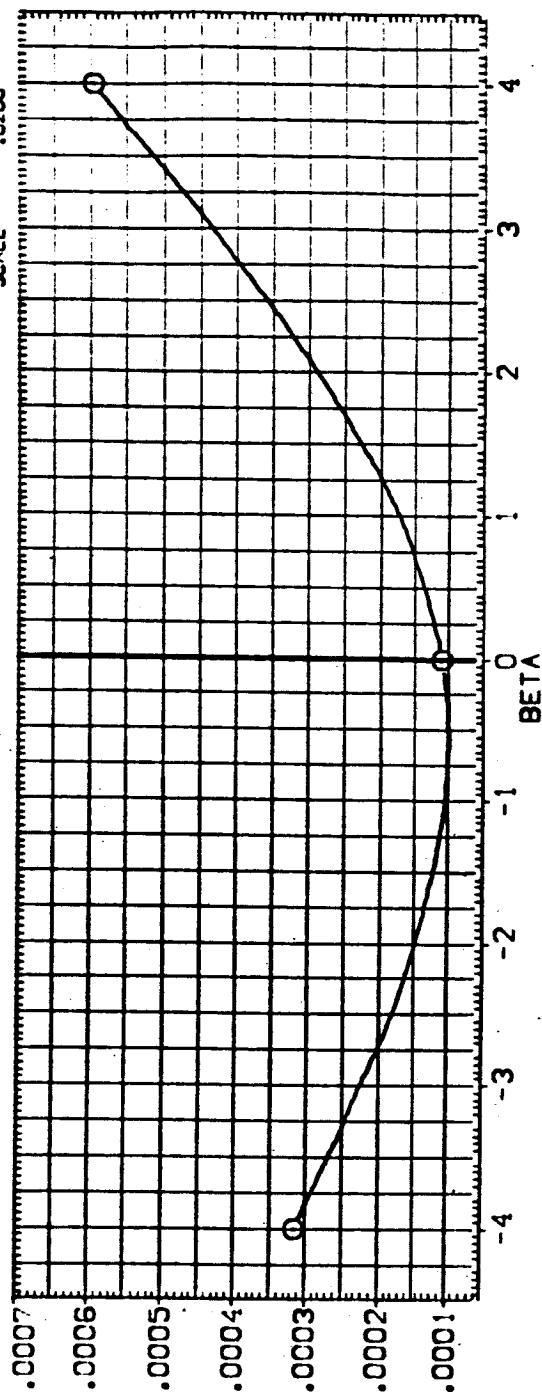


FIG. 72 INCREMENTAL EFFECT OF PLUMES - MACH=0.9 ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0
 CAJALPHA = .00

DATA SET SYMBOL: (FEUC54) ○ CONFIGURATION DESCRIPTION: SRB-NOM MPS-OFF
 ELV-IB: 8.000 ELV-OB: 4.000 MACH: 1.100 GIMBAL: 1.000
 REFERENCE INFORMATION:
 SREF: 2690.0000 SQ.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN.
 XMRP: 976.0000 IN. XT
 YMRP: 400.0000 IN. YT
 ZMRP: 400.0000 IN. ZT
 SCALE: .0200

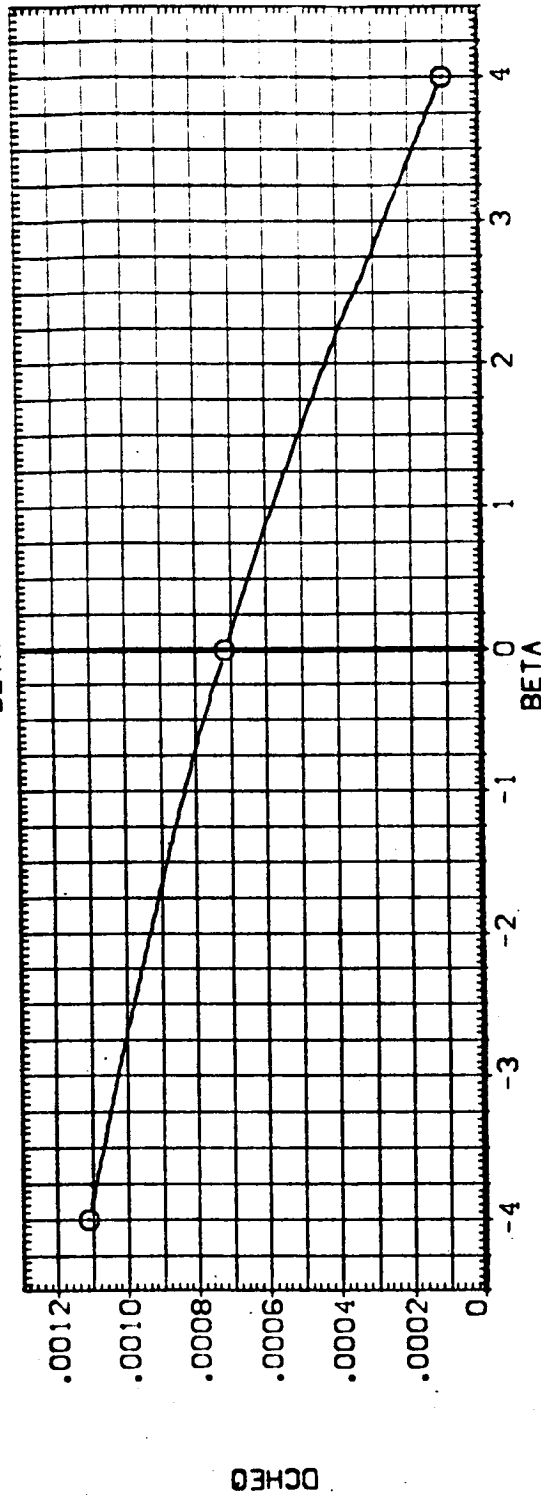
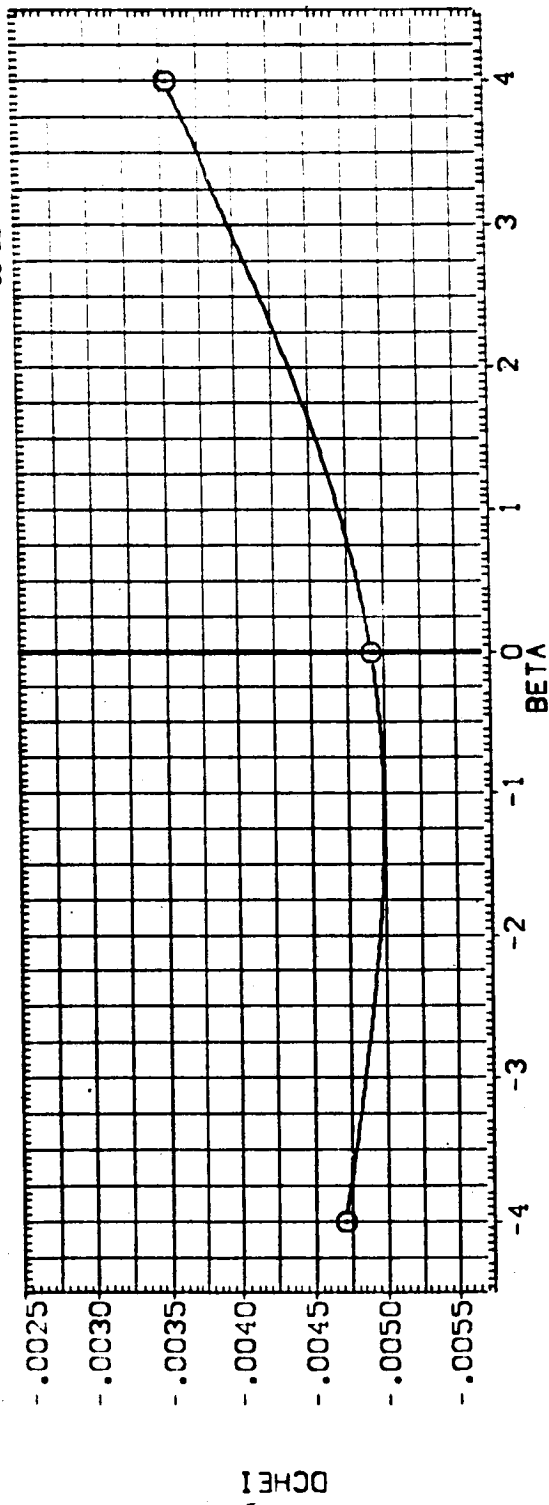


FIG. 73 INCREMENTAL EFFECT OF PLUMES - MACH=1.1 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.
 (A) ALPHA = .00

DATA SET SYMBOL: \bigcirc CONFIGURATION DESCRIPTION: ARC11-0141A19 OTS SRB-NOM MPS-OFF

ELV-IB 8.000 ELV-OB 4.000 MACH 1.250 GIMBAL 1.000

REFERENCE INFORMATION

SREF	2690.0000	50.FT.
LREF	1290.3000	IN.
BREF	1290.3000	IN.
XMRP	976.0000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0200	

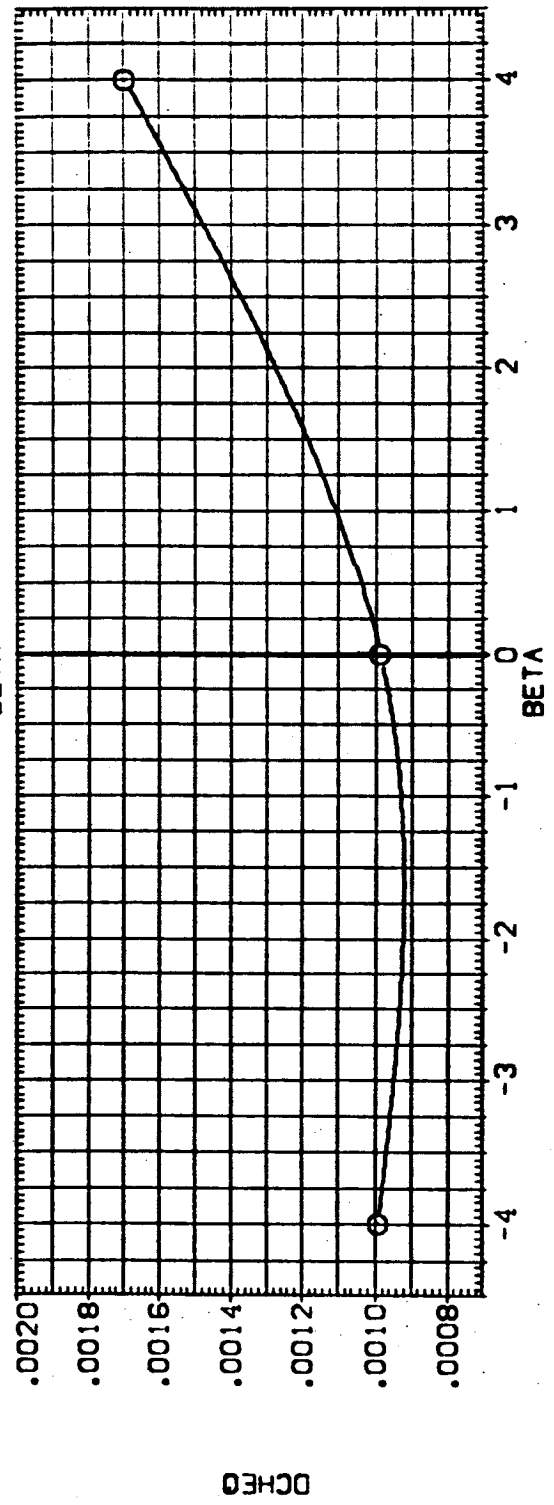
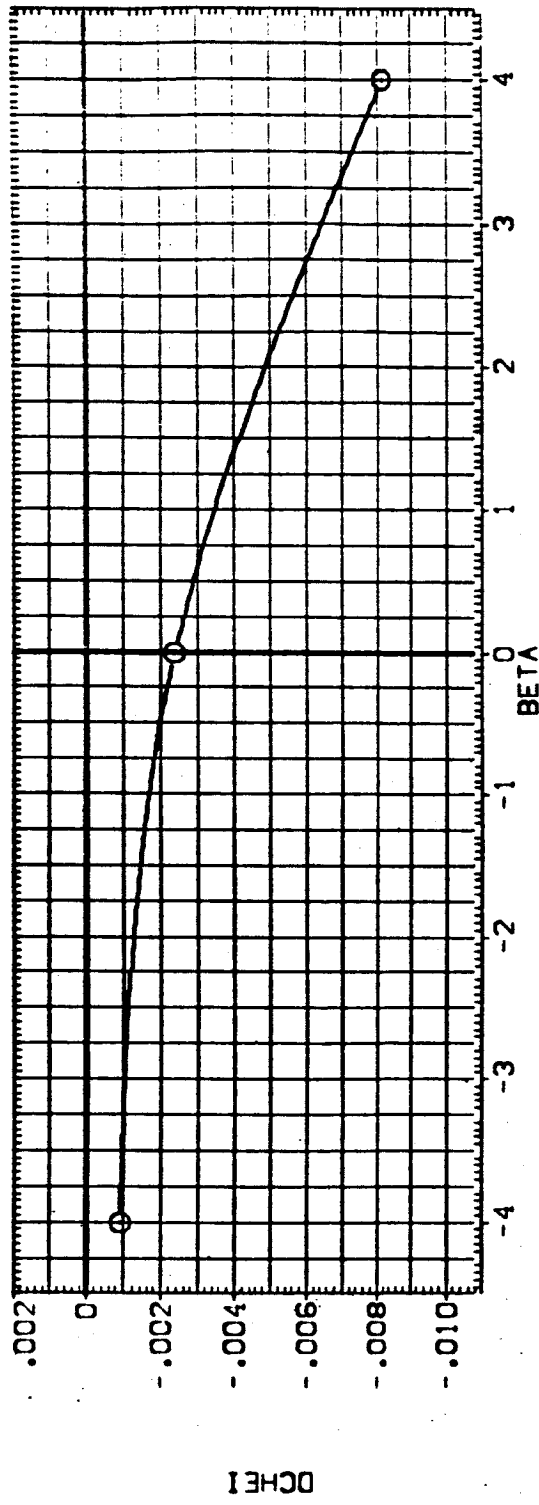


FIG. 74 INCREMENTAL EFFECT OF PLUMES - MACH=1.25 ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.

ARC11A19A = ON

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DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	ALPHA	GIMBAL	REFERENCE INFORMATION
011	ARC-0141A-9 DTIS-STRUT SRB-OFF MPS-OFF	8.000	4.000	-4.000	1.000	SREF 2690.0000 SQ.FT.
012	ARC-0141A-9 DTIS-STRUT SRB-OFF MPS-OFF	8.000	4.000	-4.000	1.000	LREF 1290.3000 IN.
013	ARC-0141A-9 DTIS-STRUT SRB-OFF MPS-OFF	8.000	4.000	-4.000	1.000	BREF 1290.3000 IN.
014	ARC-0141A-9 DTIS-STRUT SRB-OFF MPS-OFF	8.000	4.000	-4.000	1.000	XMRP 976.0000 IN.
015	ARC-0141A-9 DTIS-STRUT SRB-OFF MPS-OFF	8.000	4.000	-4.000	1.000	YMRP 976.0000 IN.
016	ARC-0141A-9 DTIS-STRUT SRB-OFF MPS-OFF	8.000	4.000	-4.000	1.000	ZMRP 400.0000 IN.
017	ARC-0141A-9 DTIS-STRUT SRB-OFF MPS-OFF	8.000	4.000	-4.000	1.000	SCALE 0.000

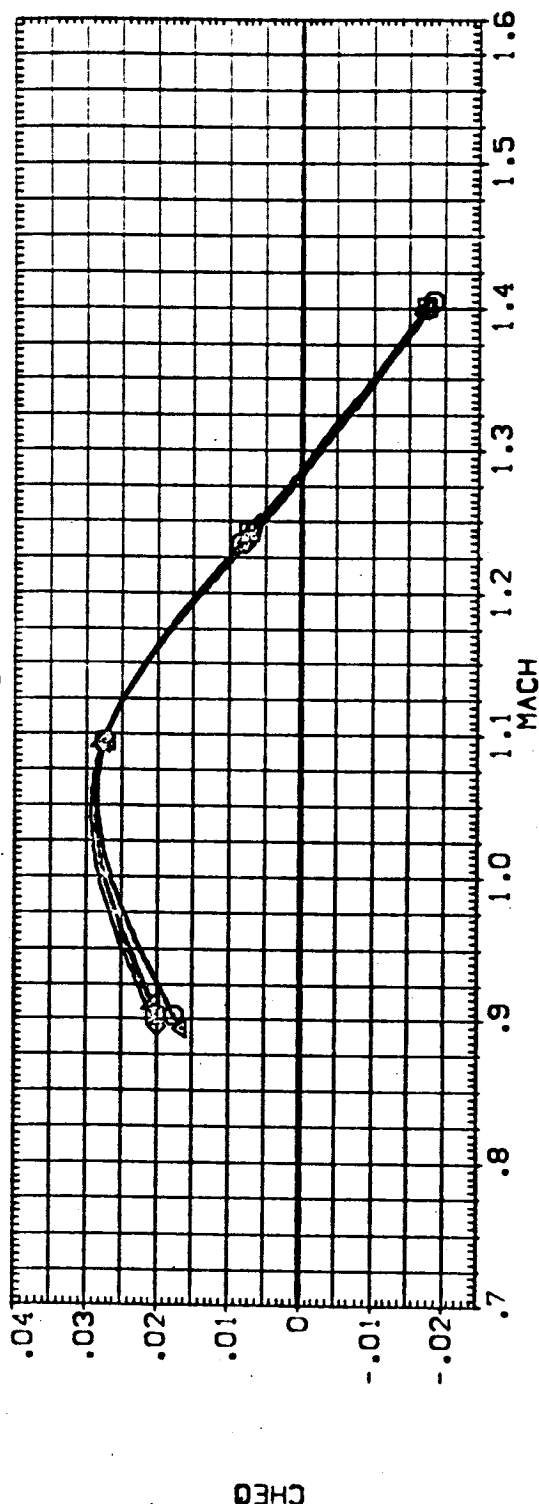
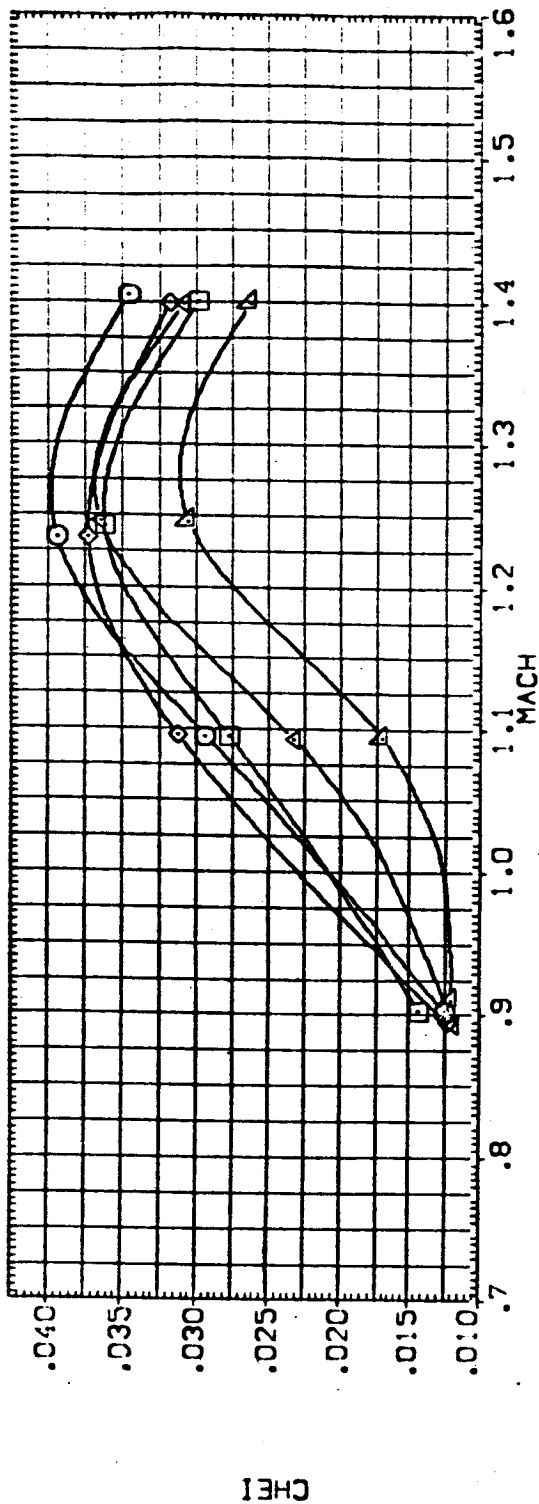


FIG. 76 SUMMARY - EFFECT OF PLUMES - ELV-IB=8.0 ELV-OB=4.0 ALPHA=-4.0

(A)BETA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-08	ALPHA	GIMBAL	REFERENCE INFORMATION
[EJ01]	ARC11-0141A19 DIS-STRUT SRS-OFF MPS-OFF	8.000	4.000	-4.000	1.000	SREF 2690.0000 SQ.FT.
[EJ02]	ARC11-0141A19 DIS-STRUT SRS-NOM MPS-NOM	8.000	4.000	-4.000	1.000	LREF 1290.3000 IN.
[EJ03]	ARC11-0141A19 DIS-STRUT SRS-LOW MPS-LOW	8.000	4.000	-4.000	1.000	BREF 1290.3000 IN.
[EJ04]	ARC11-0141A19 DIS-STRUT SRS-HI MPS-HI	8.000	4.000	-4.000	1.000	XMRP 976.0000 IN.
[EJ05]	ARC11-0141A19 DIS-STRUT SRS-HI MPS-HI	8.000	4.000	-4.000	1.000	YMRP 400.0000 IN.
[EJ06]	ARC11-0141A19 DIS-STRUT SRS-HI MPS-HI	8.000	4.000	-4.000	1.000	ZMRP 400.0000 IN.
[EJ07]	ARC11-0141A19 DIS-STRUT SRS-HI MPS-HI	8.000	4.000	-4.000	1.000	SCALE .0200

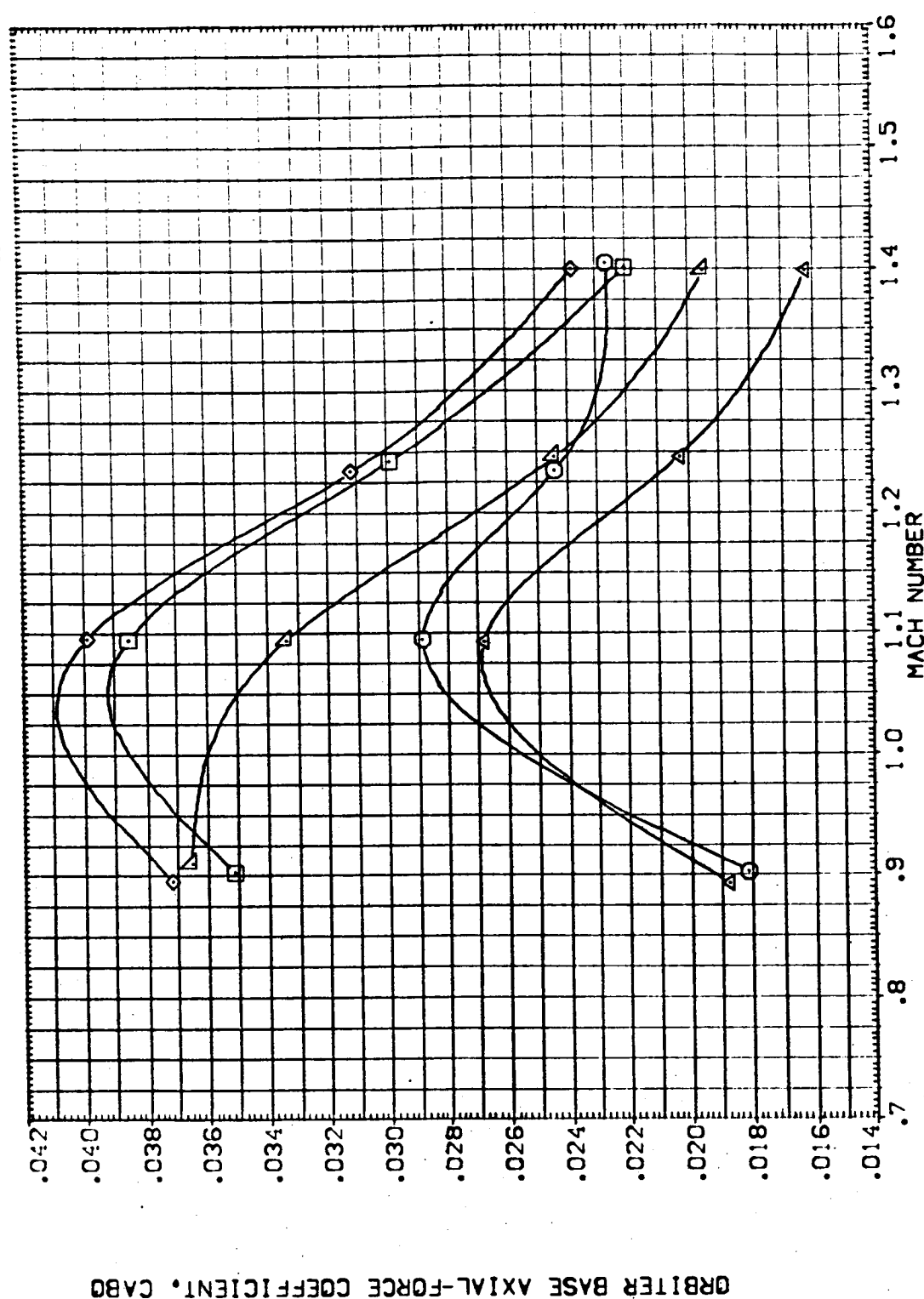


FIG. 76 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-08=4.0 ALPHA=-4.0

CABETA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	ALPHA	GIMBAL	REFERENCE INFORMATION
ARC11-0141A19	OTS-STRUT SR3-OFF MPS-OFF	8.000	4.000	-4.000	1.000	SREF 2690.0000 SQ.FT.
ARC11-0141A19	OTS-STRUT SR3-NOM MPS-NOM	8.000	4.000	-4.000	1.000	LREF 1290.0000 IN.
ARC11-0141A19	OTS-STRUT SR3-LGV MPS-LGV	8.000	4.000	-4.000	1.000	BREF 1290.0000 IN.
ARC11-0141A19	OTS-STRUT SR3-NOM MPS-OFF	8.000	4.000	-4.000	1.000	XREF 576.0000 IN.
ARC11-0141A19	OTS-STRUT SR3-HI MPS-HI	8.000	4.000	-4.000	1.000	YREF 400.0000 IN.
						ZREF 400.0000 IN.
						SCALE .0200

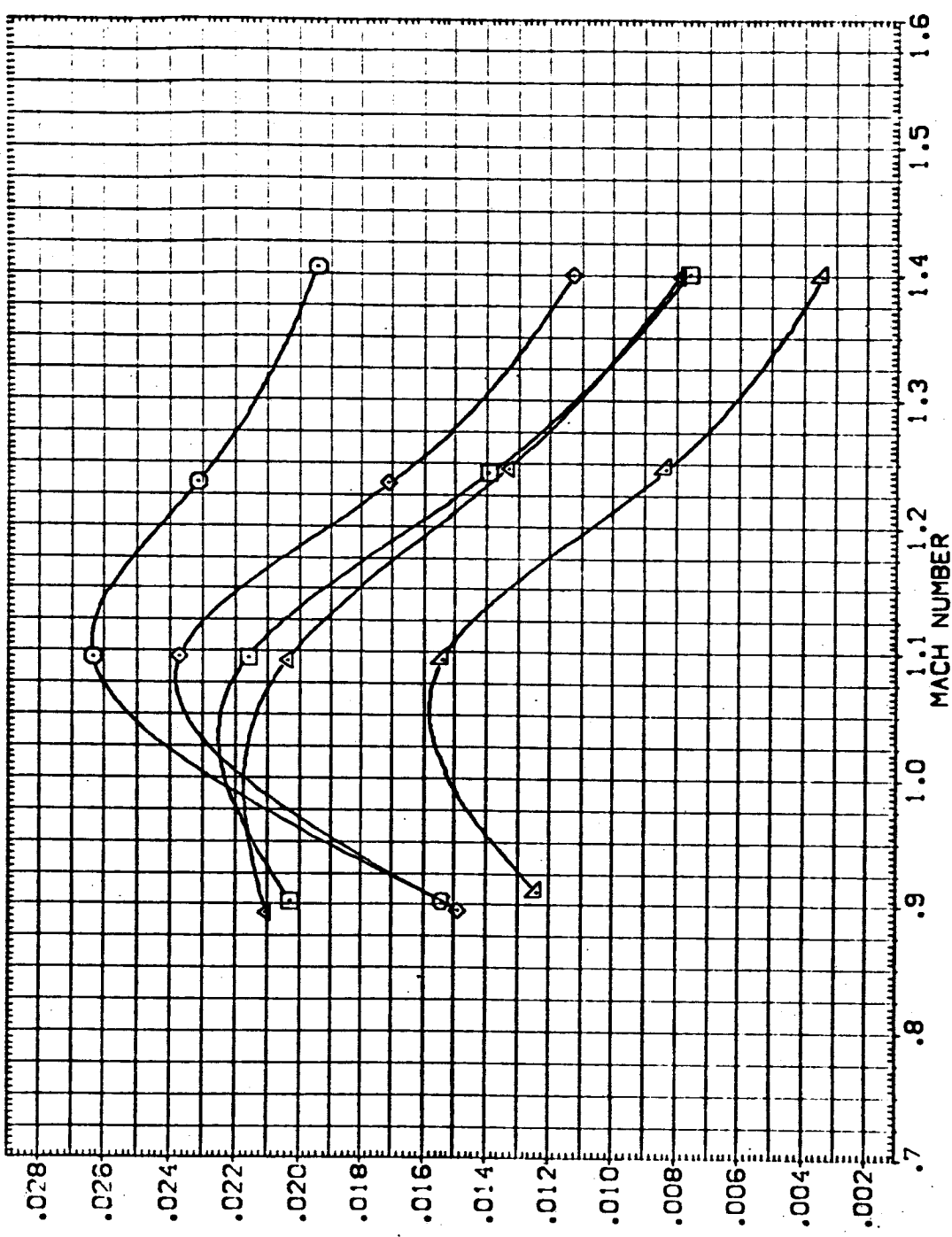


FIG. 76 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-0B=4.0 ALPHA=-4.0

(A)BETA = .00

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	ALPHA	GIMBAL	REFERENCE INFORMATION
[E-010]	ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF	8.000	4.000	-4.000	1.000	SREF 2690.0000 SQ.FT.
[E-015]	ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM	8.000	4.000	-4.000	1.000	LREF 1290.3000 IN.
[E-016]	ARC11-0141A19 OTS+STRUT SRB-LDV MPS-NOM	8.000	4.000	-4.000	1.000	BREF 1290.3000 IN.
[E-017]	ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF	8.000	4.000	-4.000	1.000	XMRP 576.0000 IN.
[E-018]	ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI	8.000	4.000	-4.000	1.000	YMRP 400.0000 IN.
						ZMRP 400.0000 IN.
						SCALE .0700

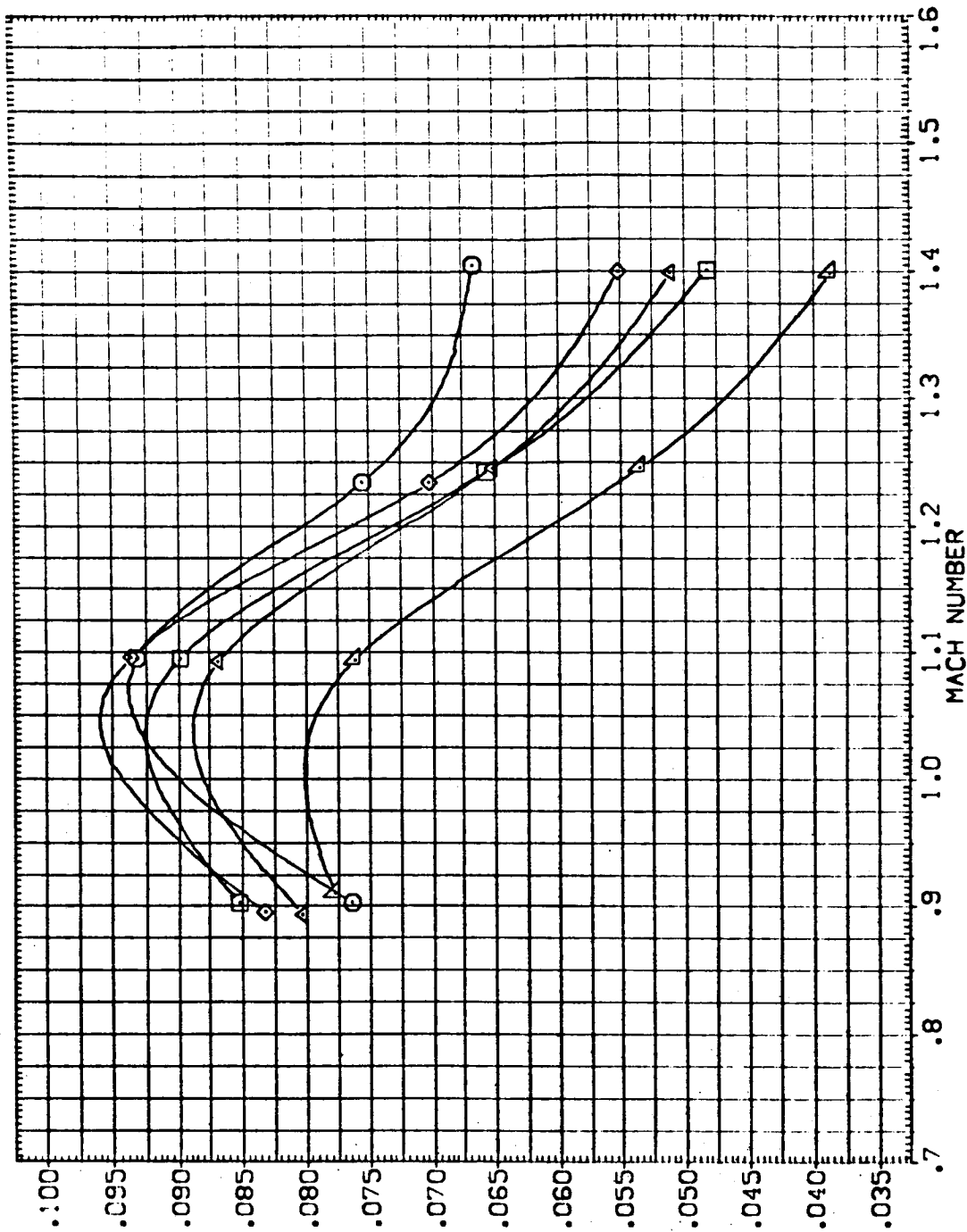


FIG. 76 SUMMARY - EFFECT OF PLUMES - ELV-IB=8.0 ELV-OB=4.0 ALPHA=-4.0

CABETA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-08	ALPHA	GIMBAL	REFERENCE INFORMATION
[E0201]	ARC11-0141A19 OTS-STRUT SPS-OF	8.000	4.000	.000	1.000	SREF 2690.0000 SQ.FT.
[E0202]	ARC11-0141A19 OTS-STRUT SPS-ON	8.000	4.000	.000	1.000	LREF 1290.3000 IN.
[E0203]	ARC11-0141A19 OTS-STRUT SPS-ON	8.000	4.000	.000	1.000	BREF 1290.3000 IN.
[E0204]	ARC11-0141A19 OTS-STRUT SPS-OF	8.000	4.000	.000	1.000	XREF 976.0000 IN.
[E0205]	ARC11-0141A19 OTS-STRUT SPS-ON	8.000	4.000	.000	1.000	YREF 400.0000 IN.
[E0206]	ARC11-0141A19 OTS-STRUT SPS-ON	8.000	4.000	.000	1.000	ZREF 400.0000 IN.
[E0207]	ARC11-0141A19 OTS-STRUT SPS-ON	8.000	4.000	.000	1.000	SCALE .0200

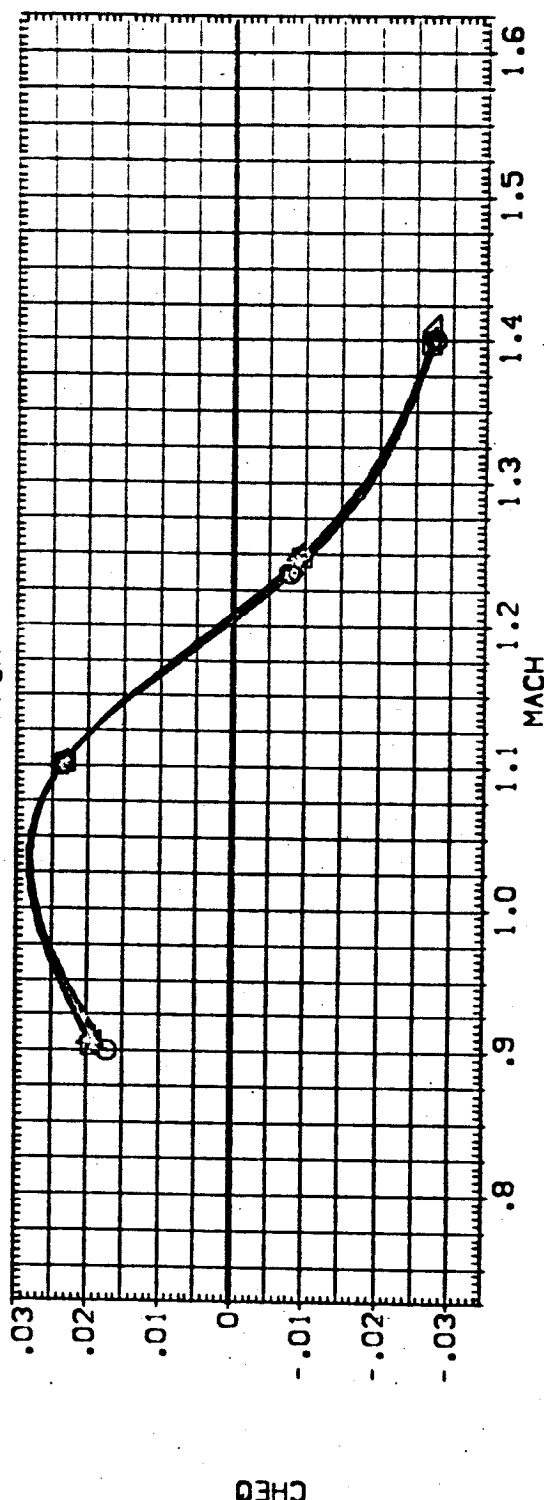
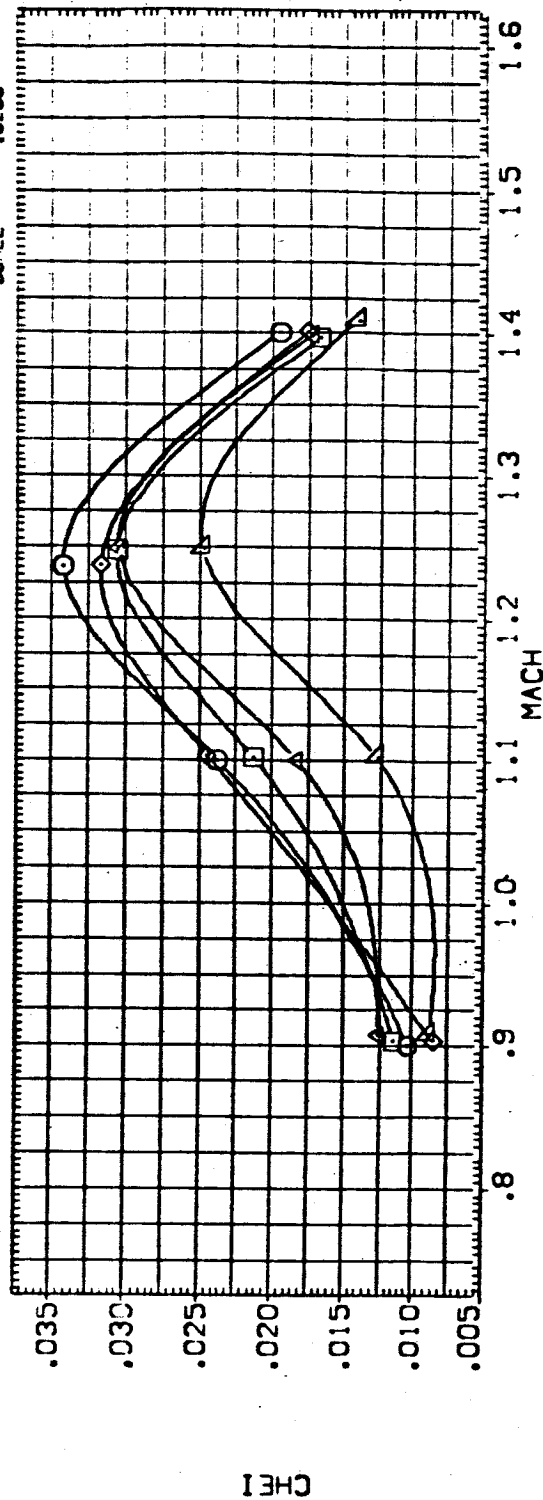


FIG. 77 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-08=4.0 ALPHA=0.0

(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	ALPHA	GIMBAL	REFERENCE INFORMATION
ARC11-0141A19	OTS-STRUT SRB-OFF MPS-OFF	8.000	1.000	.000	1.000	SREF 2690.0000 50. FT.
ARC11-0141A19	OTS-STRUT SRB-NOM MPS-NOM	8.000	4.000	.000	1.000	LREF 1290.3000 IN.
ARC11-0141A19	OTS-STRUT SRB-LOW MPS-NOM	8.000	4.000	.000	1.000	BREF 1290.3000 IN.
ARC11-0141A19	OTS-STRUT SRB-NOM MPS-OFF	8.000	4.000	.000	1.000	XMRP 976.0000 IN.
ARC11-0141A19	OTS-STRUT SRB-HI MPS-HI	8.000	4.000	.000	1.000	YMRP 400.0000 IN.
ARC11-0141A19	OTS-STRUT SRB-HI MPS-HI	8.000	4.000	.000	1.000	ZMRP 400.0000 IN.

SCALE .0200

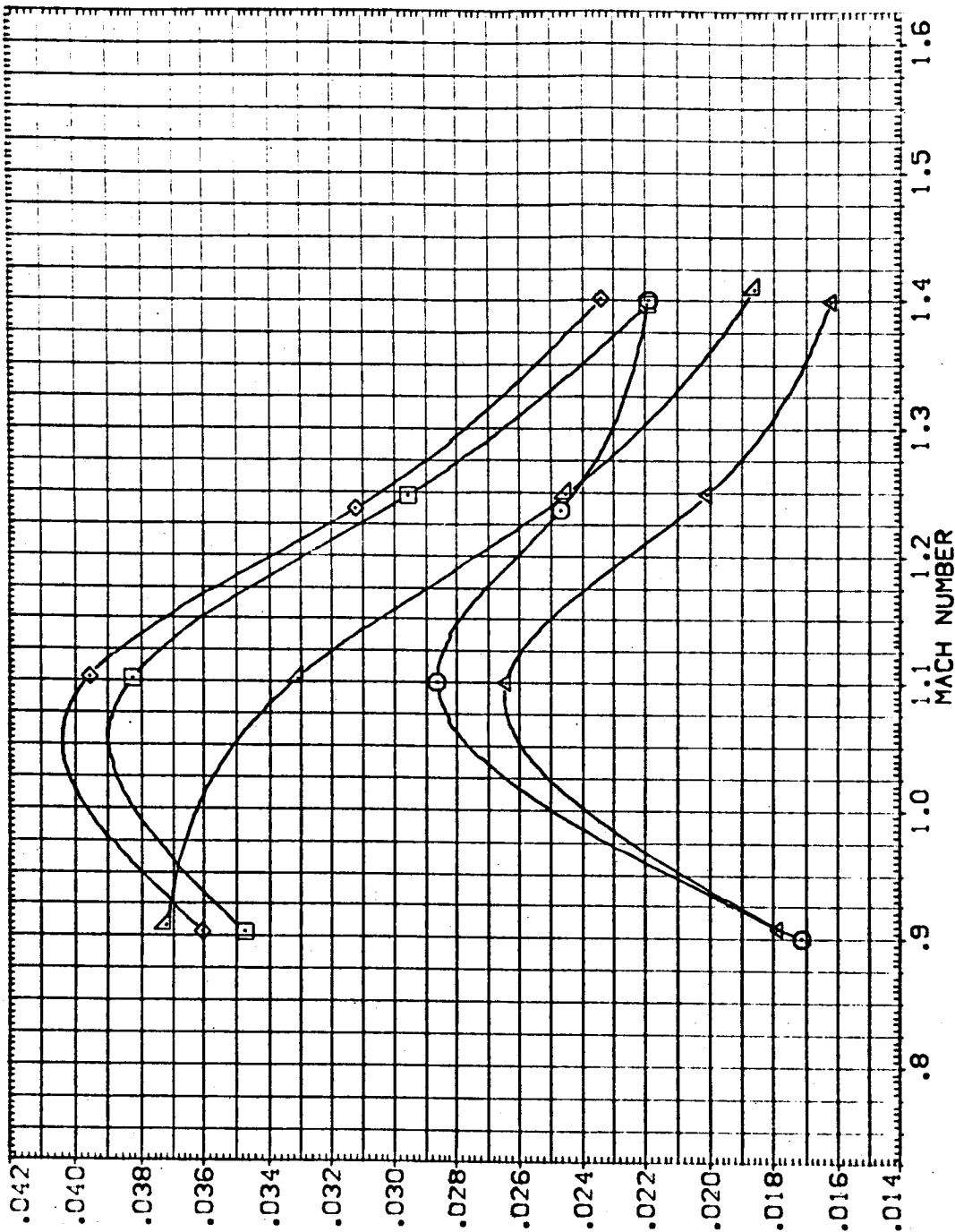


FIG. 77 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0

CABETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	ALPHA	GIMBAL	REF	SQ.FT.
ARC11-0141A19	OTS-STRUT SRB-DEF	8.000	4.000	.000	1.000	2630.0000	IN.
ARC11-0141A19	OTS-STRUT SRB-LOV	8.000	4.000	.000	1.000	1790.3000	IN.
ARC11-0141A19	OTS-STRUT SRB-NOM	8.000	4.000	.000	1.000	1790.3000	IN.
ARC11-0141A19	OTS-STRUT SRB-HI	8.000	4.000	.000	1.000	576.0000	IN.
ARC11-0141A19	OTS-STRUT SRB-HI	8.000	4.000	.000	1.000	400.0000	IN.
						SCALE	.0200

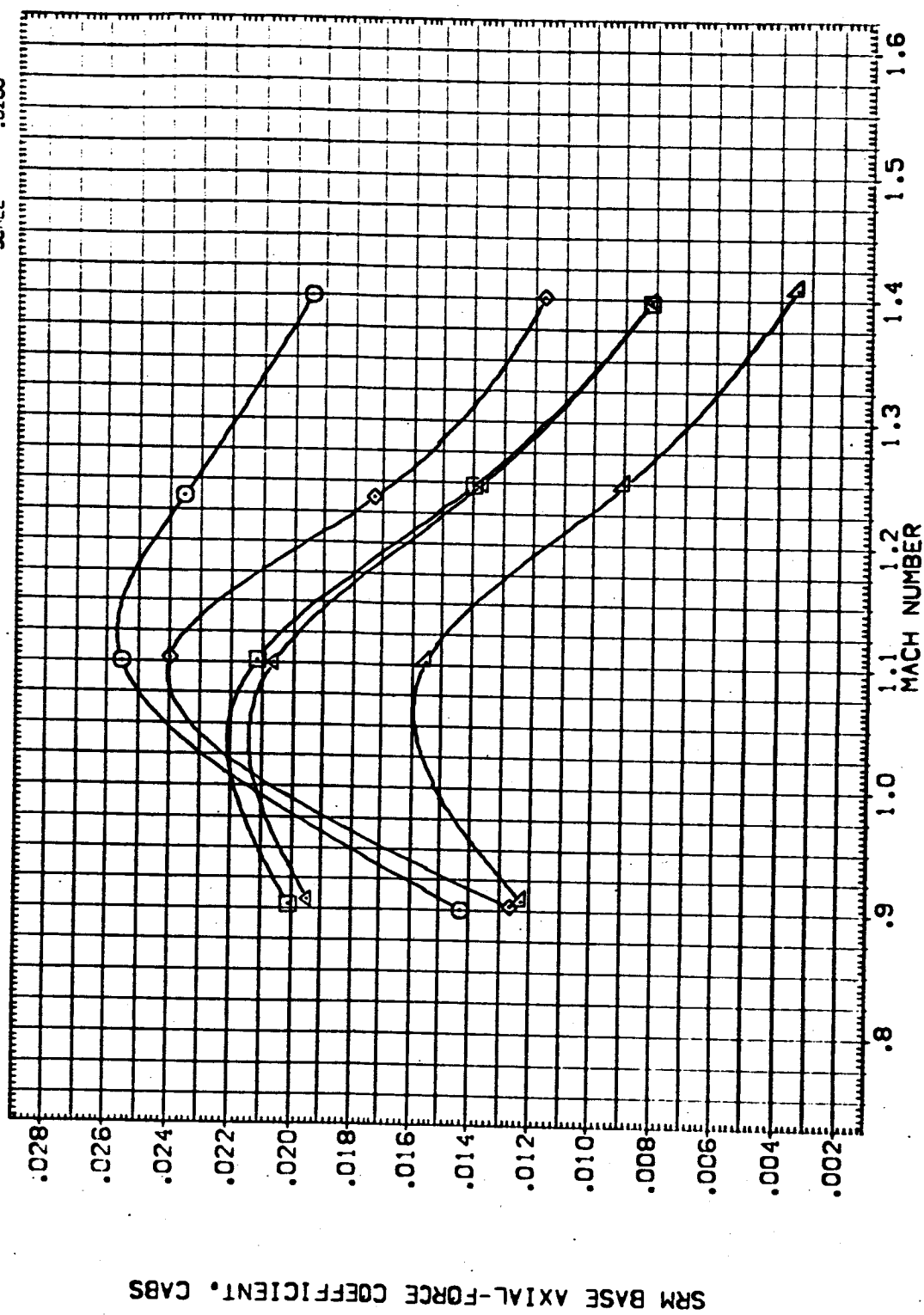


FIG. 77 SUMMARY - EFFECT OF PLUMES - ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0
 CABETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	SRB OFF	MPS OFF	SRB-HI	MPS-HI
ARC11-0141A19	OTS+STRUT	SRB-NOM	MPS-NOM	SRB-HI	MPS-HI
ARC11-0141A19	OTS+STRUT	SRB-NOM	MPS-NOM	SRB-HI	MPS-HI
ARC11-0141A19	OTS+STRUT	SRB-NOM	MPS-NOM	SRB-HI	MPS-HI
ARC11-0141A19	OTS+STRUT	SRB-NOM	MPS-NOM	SRB-HI	MPS-HI
ARC11-0141A19	OTS+STRUT	SRB-NOM	MPS-NOM	SRB-HI	MPS-HI

ELV-18 ELV-08 ALPHA GIMBAL

ELV-18	ELV-08	ALPHA	GIMBAL
8.000	4.000	.000	1.000
8.000	4.000	.000	1.000
8.000	4.000	.000	1.000
8.000	4.000	.000	1.000
8.000	4.000	.000	1.000

REFERENCE INFORMATION

SRF	2690.0000	SO.FT.
SRF	2690.0000	IN.
SRF	1290.3000	IN.
SRF	1290.3000	IN.
SRF	976.0000	IN.
SRF	400.0000	IN.
SRF	400.0000	IN.

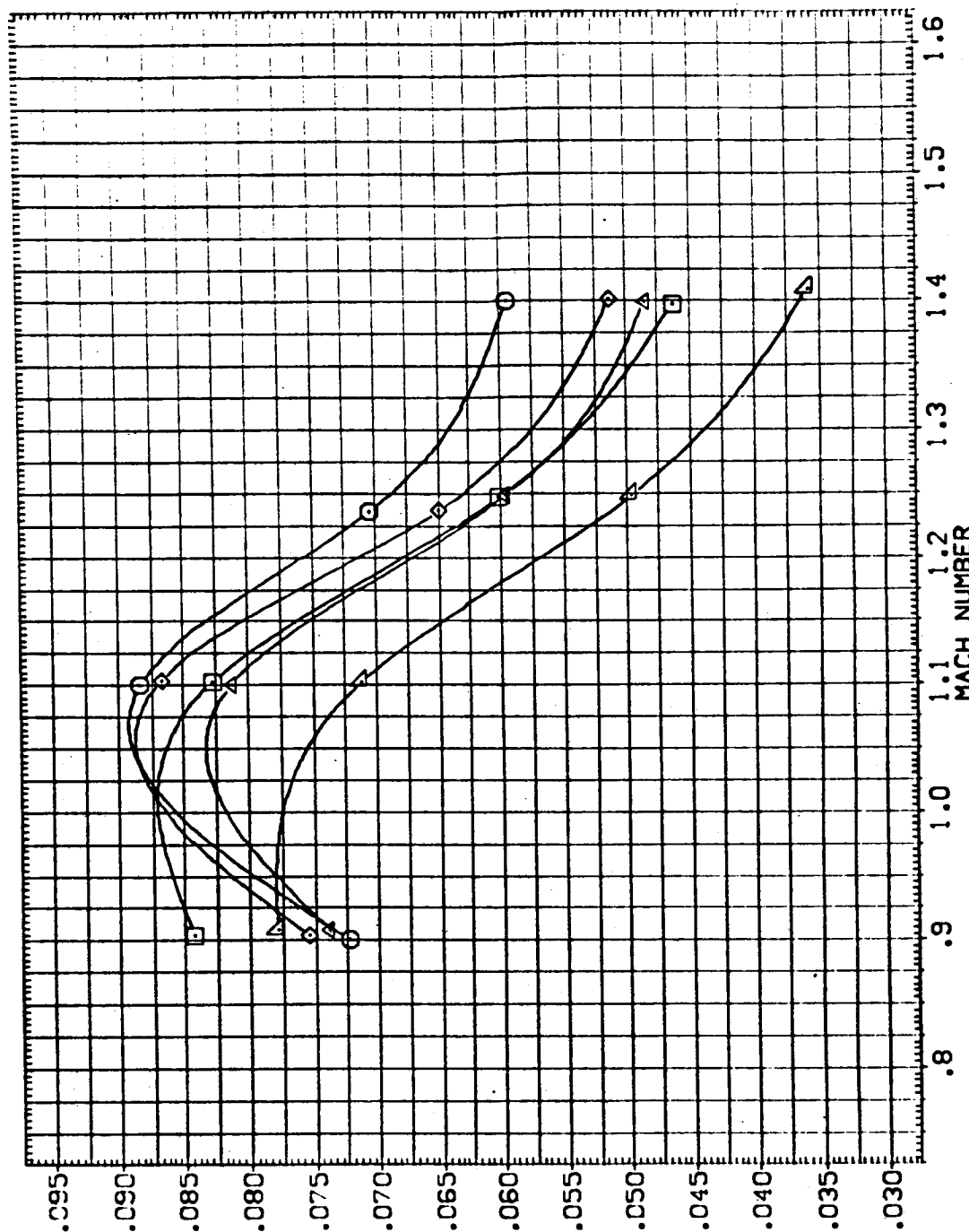


FIG. 77 SUMMARY - EFFECT OF PLUMES - ELV-18=8.0 ELV-08=4.0 ALPHA=0.0

(A) BETA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	ALPHA	GIMBAL	REFERENCE INFORMATION
[EJ301]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	SREF 2650.0000 SQ.FT.
[EJ302]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	LREF 1290.3000
[EJ303]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	BREF 1290.3000
[EJ304]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	XMRP 976.0000
[EJ305]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	YMRP 400.0000
[EJ306]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	SCALE .0200
[EJ307]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ308]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ309]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ310]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ311]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ312]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ313]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ314]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ315]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ316]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ317]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ318]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ319]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ320]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ321]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ322]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ323]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ324]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ325]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ326]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ327]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ328]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ329]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ330]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ331]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ332]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ333]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ334]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ335]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ336]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ337]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ338]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ339]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ340]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ341]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ342]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ343]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ344]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ345]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ346]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ347]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ348]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ349]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ350]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ351]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ352]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ353]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ354]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ355]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ356]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ357]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ358]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ359]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ360]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ361]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ362]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ363]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ364]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ365]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ366]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ367]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ368]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ369]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ370]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ371]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ372]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ373]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ374]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ375]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ376]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ377]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ378]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ379]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ380]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ381]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ382]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ383]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ384]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ385]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ386]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ387]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ388]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ389]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ390]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ391]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ392]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ393]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ394]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ395]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ396]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ397]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	
[EJ398]	ARC-0141A19 OTS-STRUT SRS-ON	8.000	4.000	4.000	1.000	
[EJ399]	ARC-0141A19 OTS-STRUT SRS-LOV	8.000	4.000	4.000	1.000	
[EJ400]	ARC-0141A19 OTS-STRUT SRS-OFF	8.000	4.000	4.000	1.000	

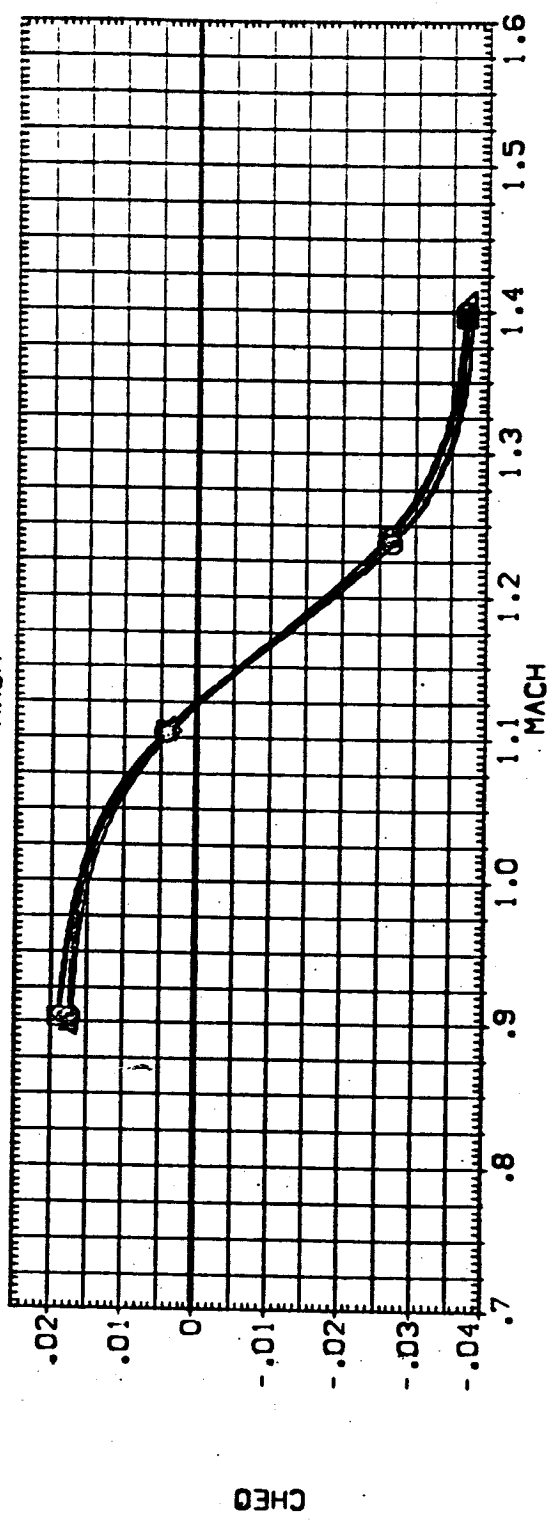
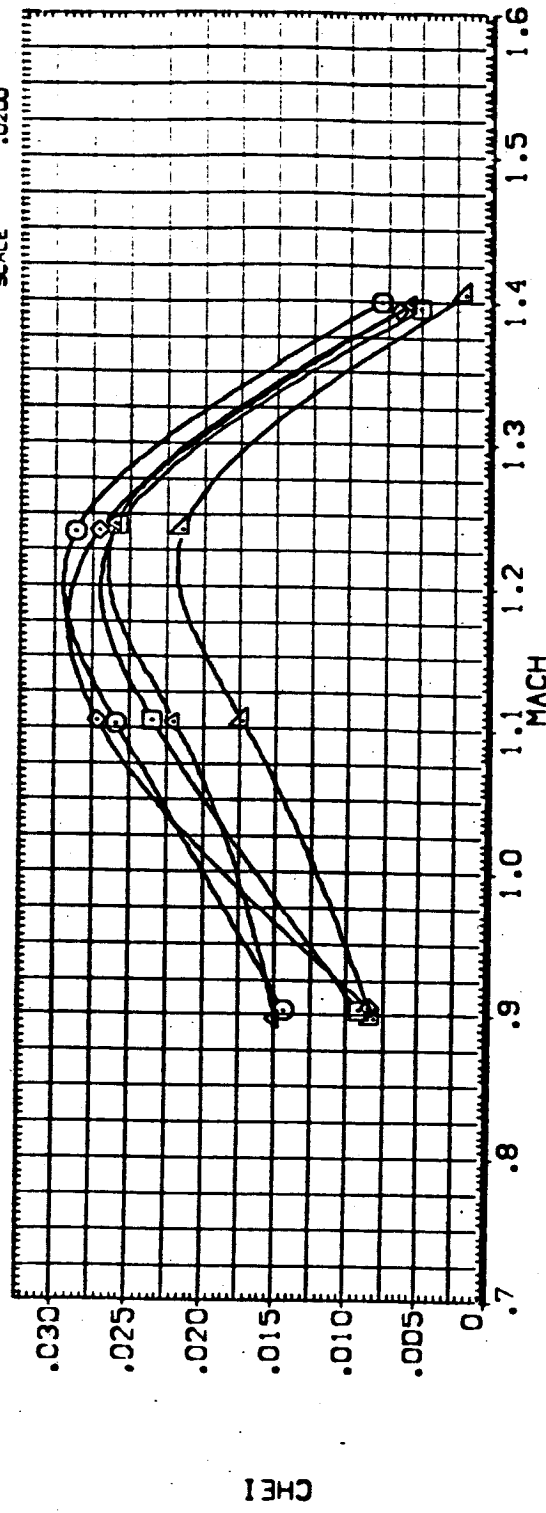


FIG. 78 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-0B=4.0 ALPHA=4.0

(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	ALPHA	GIMBAL	SREF	2650.0000	50. FT.
[EJ301]	ARC11-0141A19 OTS-STRUT SRB-OTS MPS-OTS	8.000	4.000	4.000	1.000	LREF	1750.3000	IN.
[EJ302]	ARC11-0141A19 OTS-STRUT SRB-NOM MPS-NOM	8.000	4.000	4.000	1.000	BREF	1250.3000	IN.
[EJ303]	ARC11-0141A19 OTS-STRUT SRB-LGW MPS-LGW	8.000	4.000	4.000	1.000	XMRP	976.0000	IN.
[EJ304]	ARC11-0141A19 OTS-STRUT SRB-NOM MPS-OT	8.000	4.000	4.000	1.000	YMRP	400.0000	IN.
[EJ305]	ARC11-0141A19 OTS-STRUT SRB-HI MPS-HI	8.000	4.000	4.000	1.000	ZMRP	400.0000	IN.
[EJ306]						SCALE	.0200	

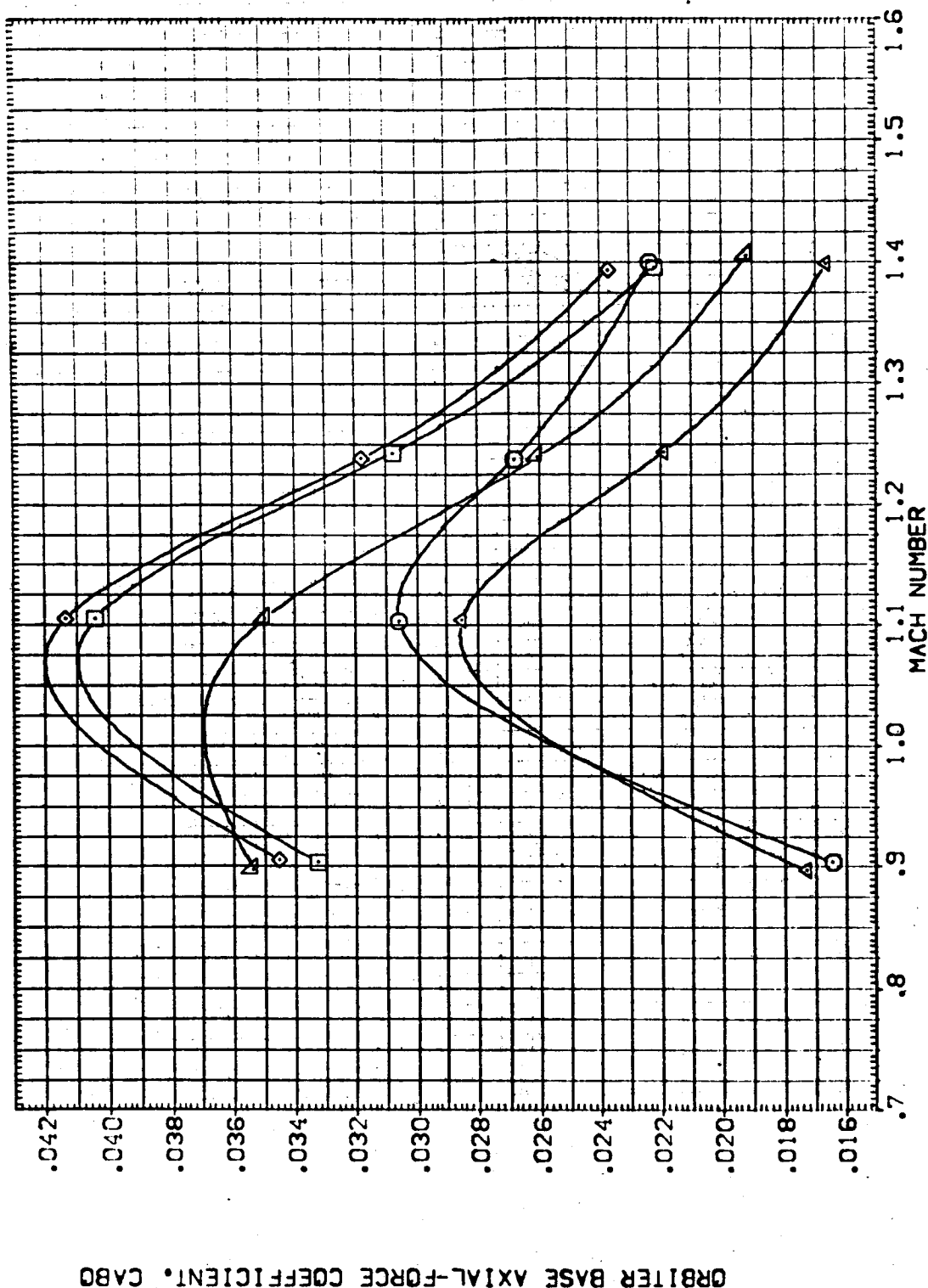
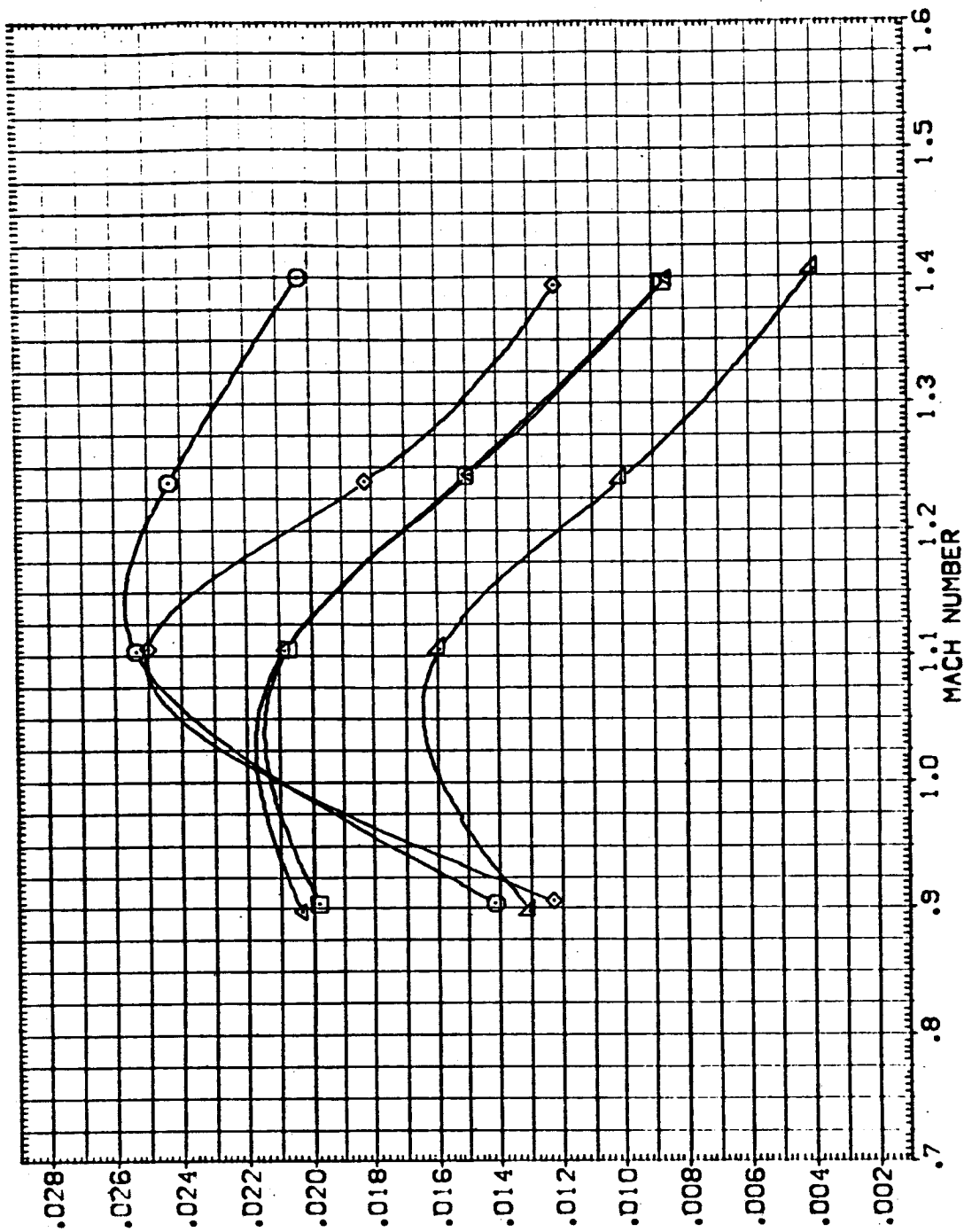


FIG. 78 SUMMARY - EFFECT OF PLUMES - ELV-IB=8.0 ELV-OB=4.0 ALPHA=4.0

CABETA = .00



DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-18	ELV-08	ALPHA	GIMBAL	REFERENCE INFORMATION
[14303.1]	○	ARC11-0141A19 OTS-STRUT SRB-0FF MPS-0FF	8.000	4.000	4.000	1.000	SREF 2690.0000 SQ.FT.
[14303.2]	○	ARC11-0141A19 OTS-STRUT SRB-0FF MPS-0FF	8.000	4.000	4.000	1.000	LREF 1290.3000 IN.
[14303.3]	○	ARC11-0141A19 OTS-STRUT SRB-0FF MPS-0FF	8.000	4.000	4.000	1.000	BREF 1290.3000 IN.
[14303.4]	○	ARC11-0141A19 OTS-STRUT SRB-0FF MPS-0FF	8.000	4.000	4.000	1.000	XMRP 976.0000 IN.
[14303.5]	○	ARC11-0141A19 OTS-STRUT SRB-0FF MPS-0FF	8.000	4.000	4.000	1.000	YMRP 400.0000 IN.
[14303.6]	○	ARC11-0141A19 OTS-STRUT SRB-0FF MPS-0FF	8.000	4.000	4.000	1.000	ZMRP 400.0000 IN.
[14303.7]	○	ARC11-0141A19 OTS-STRUT SRB-0FF MPS-0FF	8.000	4.000	4.000	1.000	SCALE .0200



SRM BASE AXIAL-FORCE COEFFICIENT, CABS

FIG. 78 SUMMARY - EFFECT OF PLUMES - ELV-18=8.0 ELV-08=4.0 ALPHA=4.0

(A)BETA = .00

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	ALPHA	GIMBAL	REFERENCE INFORMATION	SQ.FT.
30.1	○	ARC11-0141A19 QTS-STRUT SRS-OF	8.000	4.000	4.000	1.000	SREF	2690.0000
30.2	○	ARC11-0141A19 QTS-STRUT SRS-OF	8.000	4.000	4.000	1.000	LREF	1290.3000
30.3	○	ARC11-0141A19 QTS-STRUT SRS-OF	8.000	4.000	4.000	1.000	BREF	1290.3000
30.4	○	ARC11-0141A19 QTS-STRUT SRS-OF	8.000	4.000	4.000	1.000	XMRP	576.0000
30.5	○	ARC11-0141A19 QTS-STRUT SRS-OF	8.000	4.000	4.000	1.000	YMRP	400.0000
30.6	○	ARC11-0141A19 QTS-STRUT SRS-OF	8.000	4.000	4.000	1.000	ZMRP	400.0000
30.7	○	ARC11-0141A19 QTS-STRUT SRS-OF	8.000	4.000	4.000	1.000	SCALE	.0200

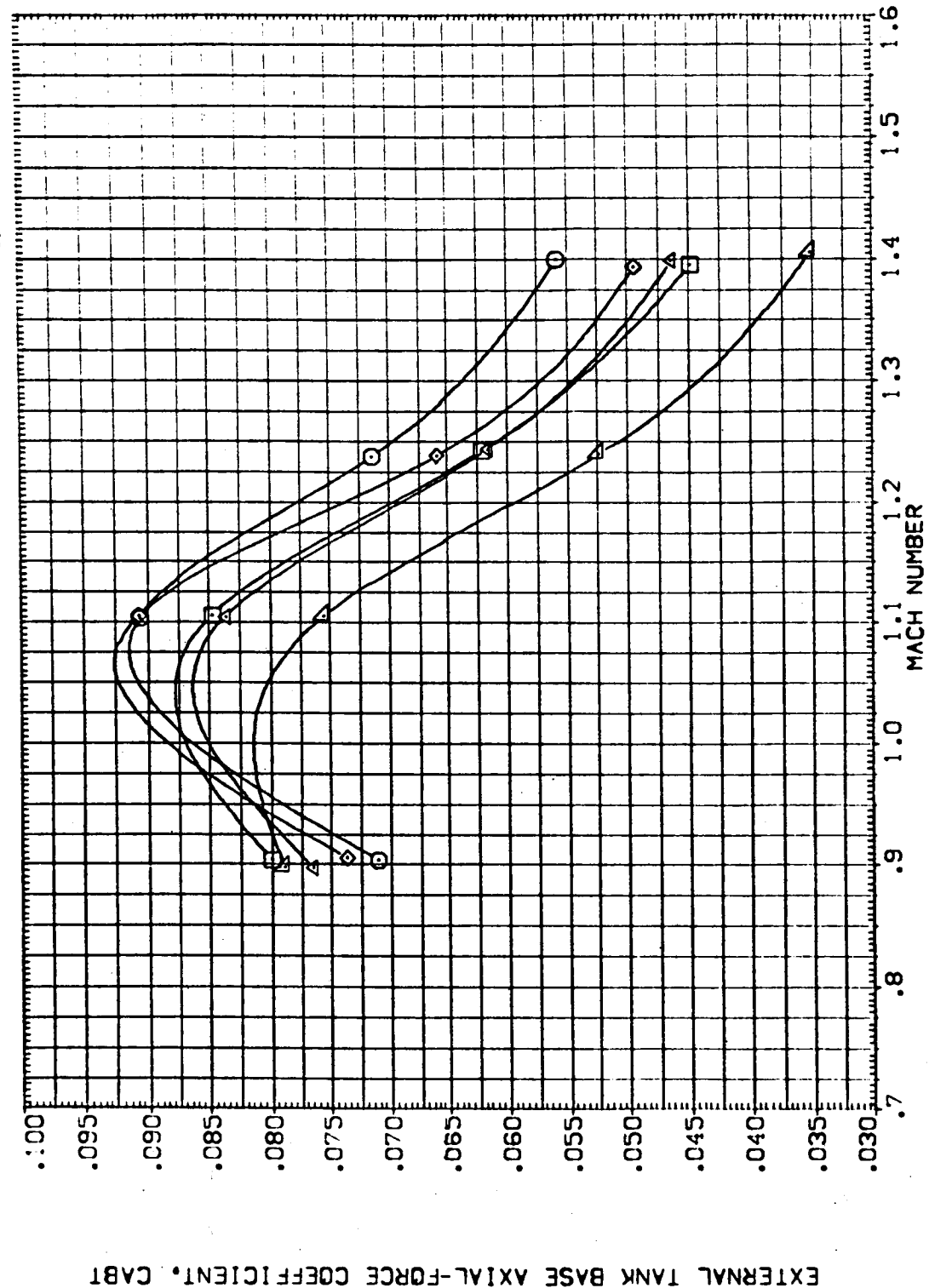


FIG. 78 SUMMARY - EFFECT OF PLUMES - ELV-IB=8.0 ELV-OB=4.0 ALPHA=4.0

(A) BETA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-18	ELV-08	ALPHA	GINBAL	REFERENCE INFORMATION
ARC11-0141A19	DIS+STRUT SRB-OF	.000	.000	-4.000	1.000	SREF 2690.0000 SQ.FT.
ARC11-0141A19	DIS+STRUT SRB-NOM	.000	.000	-4.000	1.000	LREF 1290.3000 IN.
ARC11-0141A19	DIS+STRUT SRB-OF	.000	.000	-4.000	2.000	BREF 1290.3000 IN.
ARC11-0141A19	DIS+STRUT SRB-NOM	.000	.000	-4.000	2.000	XREF 976.0000 IN.
						YREF 400.0000 IN.
						ZREF 400.0000 IN.
						SCALE .0200

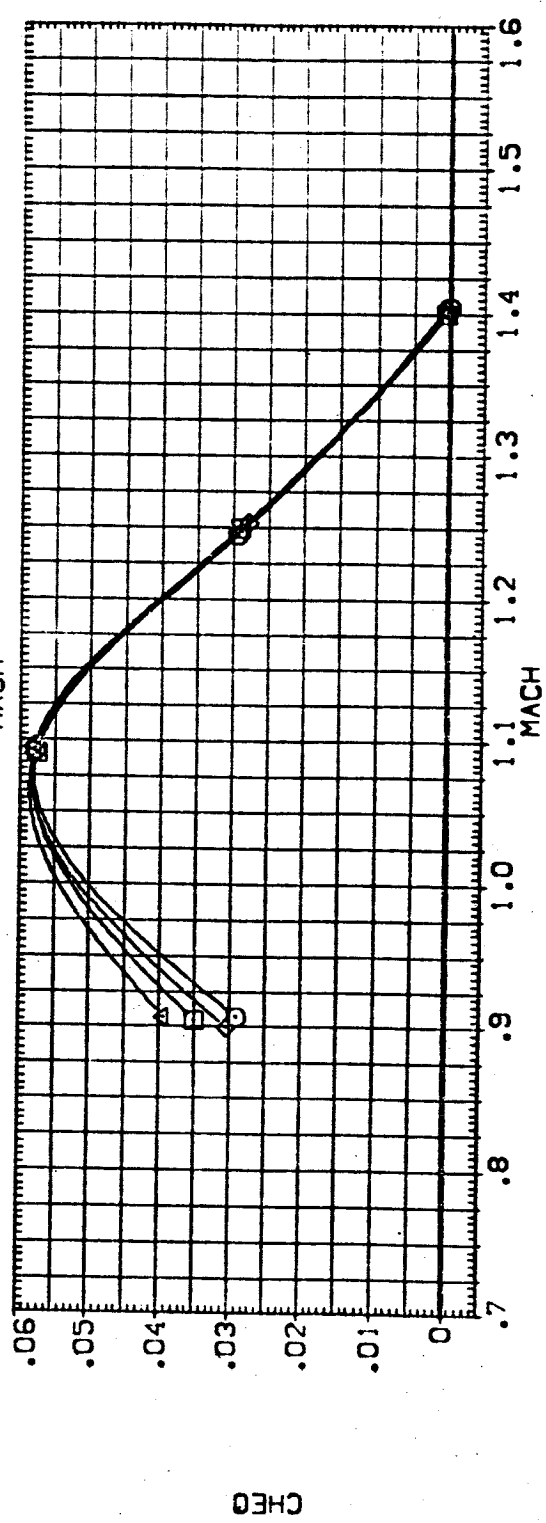
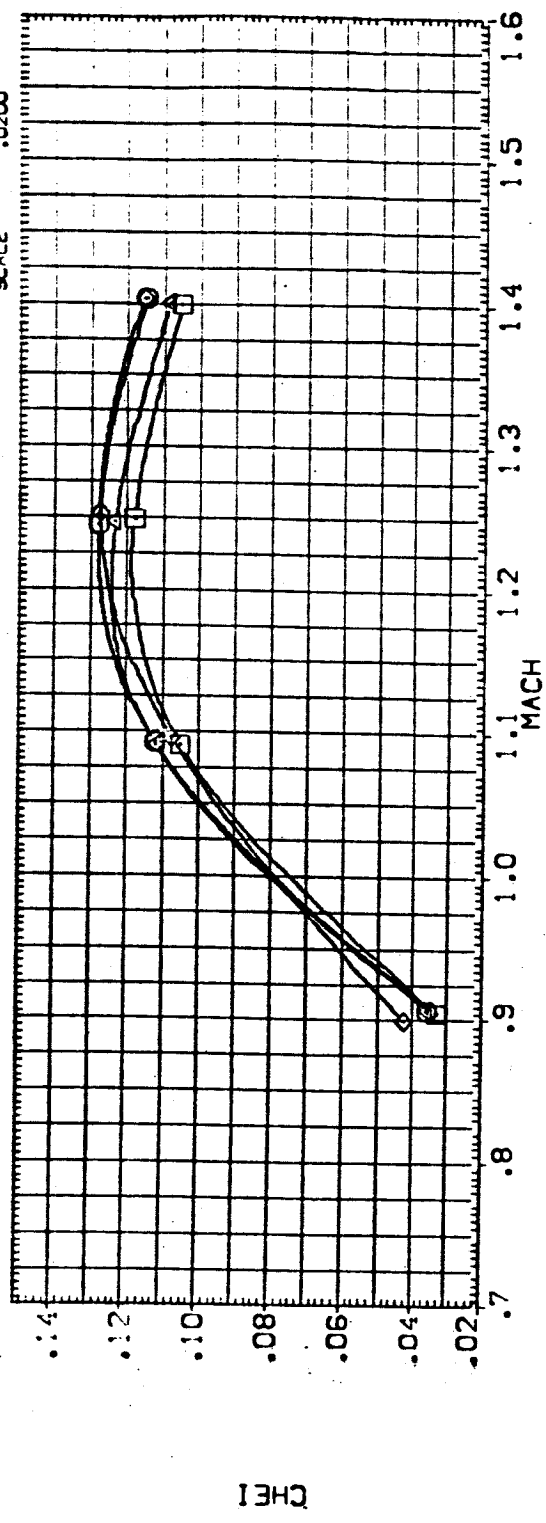
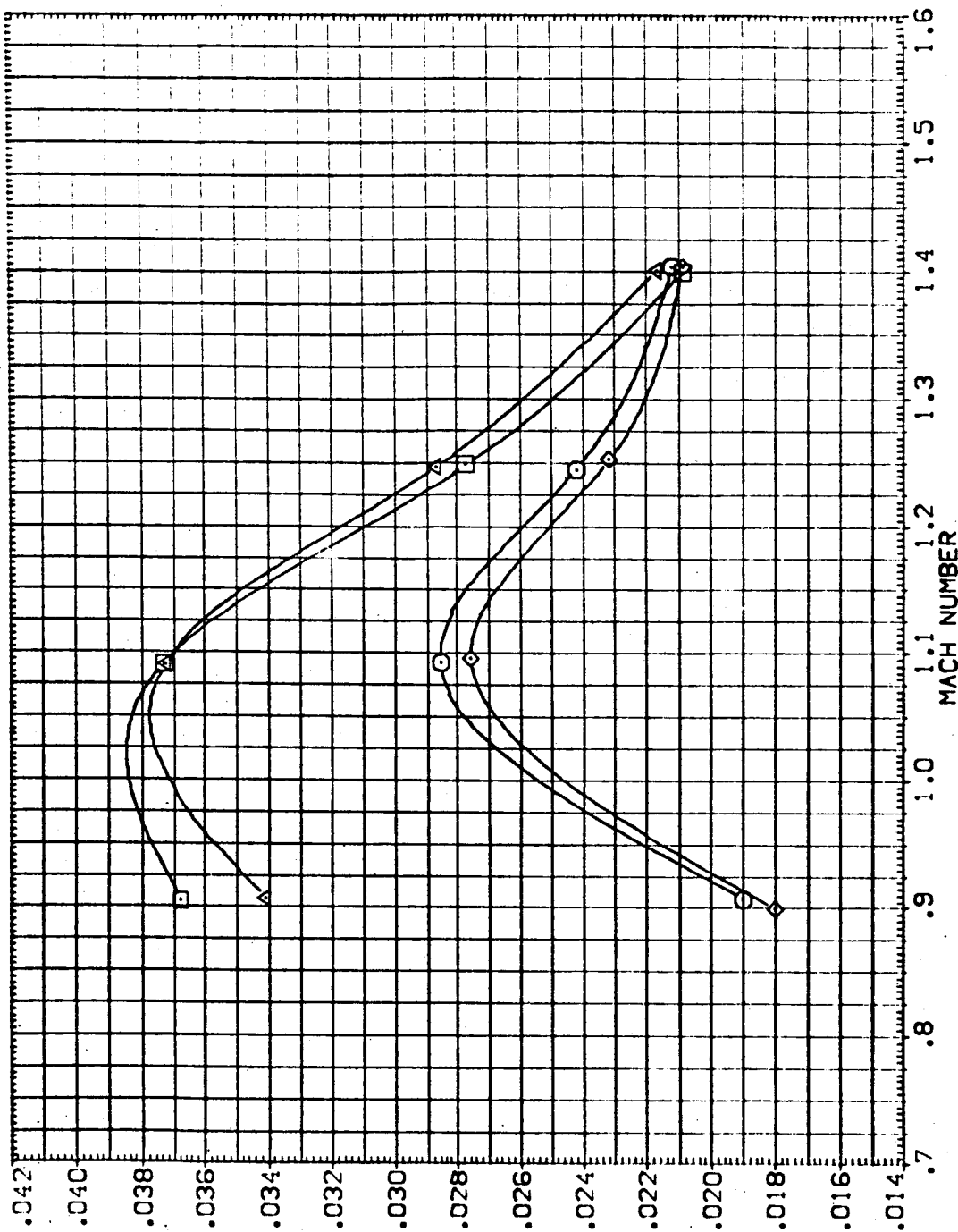


FIG. 79 SUMMARY - EFFECT OF PLUMES - ELV-18=0.0 ELV-08=0.0 ALPHA=-4.0
 (A) BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION ELV-1B ELV-08 ALPHA GIMBAL REFERENCE INFORMATION SQ.FT.

[EJ]23	ARC-0141A19 OTS-STRUT S8B-0FF MPS-0FF	.000	.000	-4.000	1.000	SREF	2690.0000
[EJ]27	ARC-0141A19 OTS-STRUT S8B-0FF MPS-0FF	.000	.000	-4.000	1.000	LREF	1290.3000
[EJ]31	ARC-0141A19 OTS-STRUT S8B-0FF MPS-0FF	.000	.000	-4.000	2.000	BREF	1290.3000
[EJ]35	ARC-0141A19 OTS-STRUT S8B-0FF MPS-0FF	.000	.000	-4.000	2.000	XMRP	976.0000
						YMRP	.0000
						ZMRP	400.0000
						SCALE	.0200



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 79 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-08=0.0 ALPHA=-4.0

CABETA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	ALPHA	GIMBAL	REFERENCE INFORMATION
[EJ23]	ARC11-0141A19 01S-SIRJ1 SRB-OFF MPS-OFF	.000	.000	-4.000	1.000	SREF 2690.0000 SQ.FT.
[EJ27]	ARC11-0141A19 01S-SIRJ1 SRB-NOM MPS-NOM	.000	.000	-4.000	1.000	LREF 1290.3000 IN.
[EJ31]	ARC11-0141A19 01S-SIRJ1 SRB-OFF MPS-OFF	.000	.000	-4.000	2.000	BREF 1290.3000 IN.
[EJ35]	ARC11-0141A19 01S-SIRJ1 SRB-NOM MPS-NOM	.000	.000	-4.000	2.000	AMRP 976.0000 IN. XT
						YMRP 400.0000 IN. YT
						ZMRP 400.0000 IN. ZT
						SCALE .0200

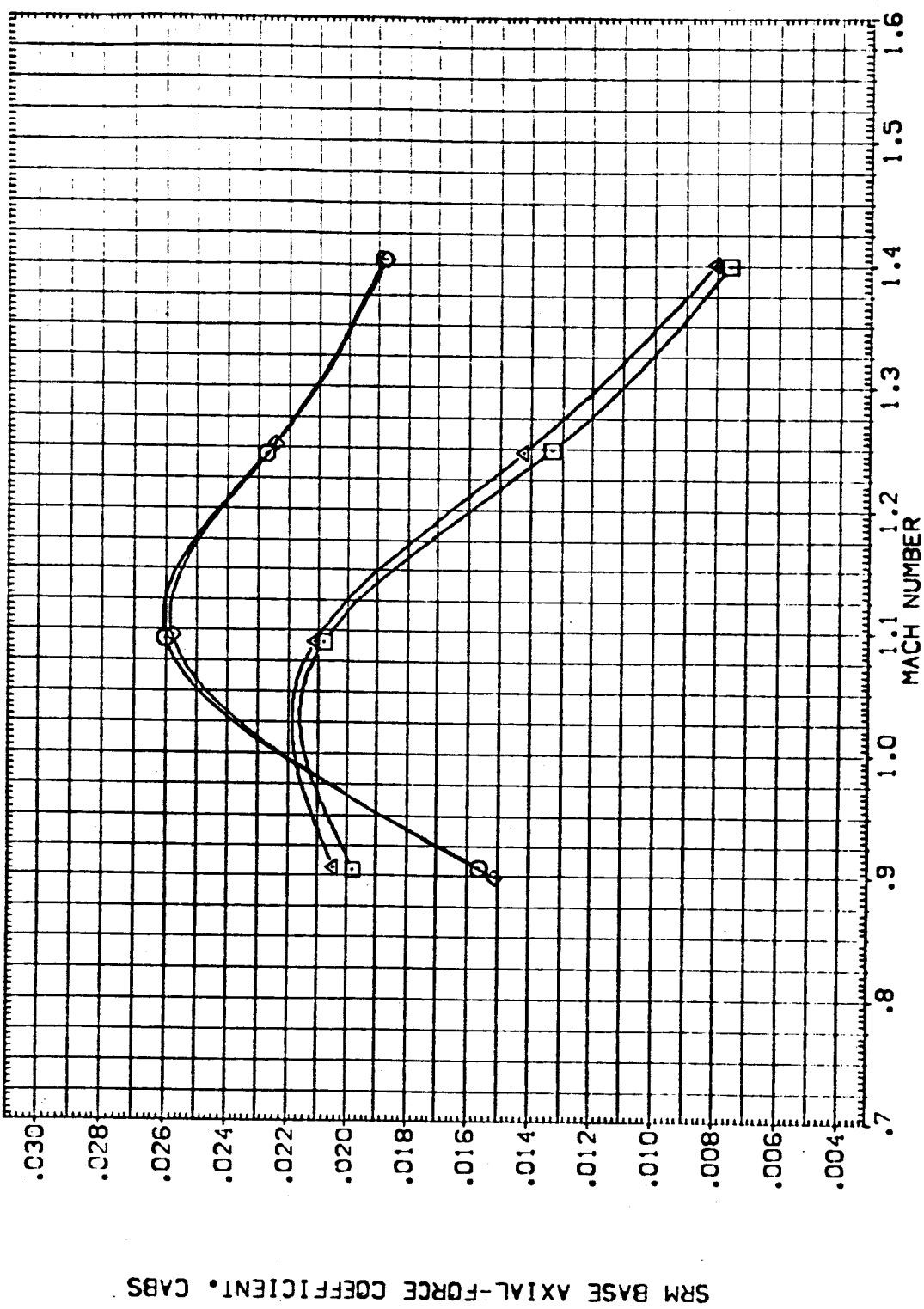
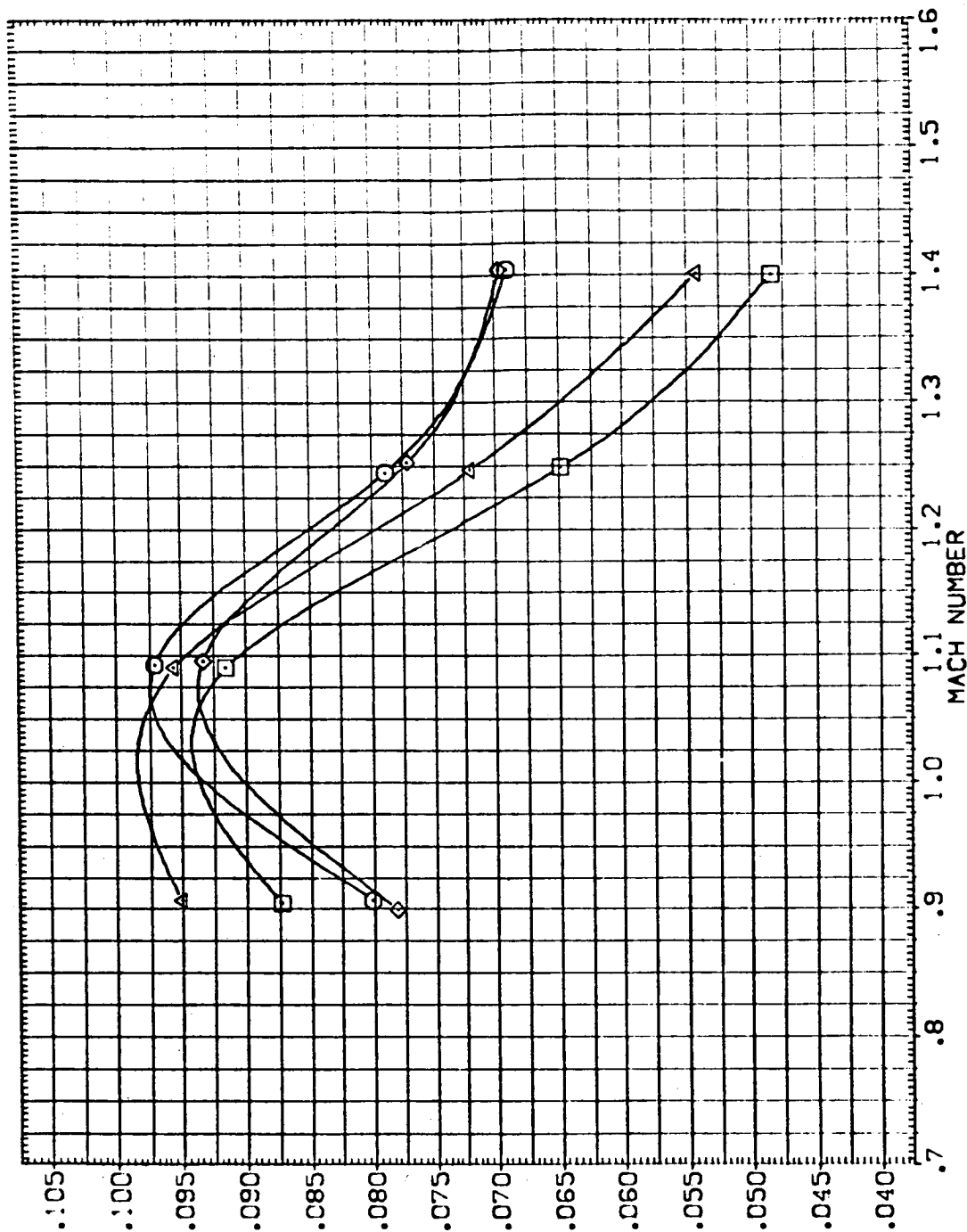


FIG. 79 SUMMARY - EFFECT OF PLUMES - ELV-IB=0.0 ELV-OB=0.0 ALPHA=-4.0

CABETA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	ALPHA	GIMBAL	REFERENCE INFORMATION
[EJ123]	ARC11-0141A19 OTS+STRT SRB-DEF MPS-DEF	.000	.000	-4.000	1.000	SREF 2690.0000 SQ.FT.
[EJ127]	ARC11-0141A19 OTS+STRT SRB-NOM MPS-NOM	.000	.000	-4.000	1.000	LREF 1290.3000 IN.
[EJ131]	ARC11-0141A19 OTS+STRT SRB-DEF MPS-DEF	.000	.000	-4.000	2.000	BREF 1290.3000 IN.
[EJ135]	ARC11-0141A19 OTS+STRT SRB-NOM MPS-NOM	.000	.000	-4.000	2.000	XMRP 976.0000 IN.
						YMRP 400.0000 IN.
						ZMRP 400.0000 IN.
						SCALE .0500



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 79 SUMMARY - EFFECT OF PLUMES - ELV-IB=0.0 ELV-OB=0.0 ALPHA=-4.0

(A)BETA = .00

DATA SET SYMBOL. CONFIGURATION DESCRIPTION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	ALPHA	GIMBAL	REFERENCE INFORMATION
[E-003]	ARC-0-41A-9 OTS-STRUT SRB-OFF MPS-OFF	.000	.000	.000	1.000	SREF 2690.0000 SQ.FT.
[E-004]	ARC-0-41A-9 OTS-STRUT SRB-NON MPS-NON	.000	.000	.000	1.000	LREF 1290.3000
[E-005]	ARC-0-41A-9 OTS-STRUT SRB-OFF MPS-OFF	.000	.000	.000	2.000	BREF 1290.3000
[E-006]	ARC-0-41A-9 OTS-STRUT SRB-NON MPS-NON	.000	.000	.000	2.000	XMRB 976.0000
						YMRB .0000
						ZMRB 100.0000
						SCALE .0730

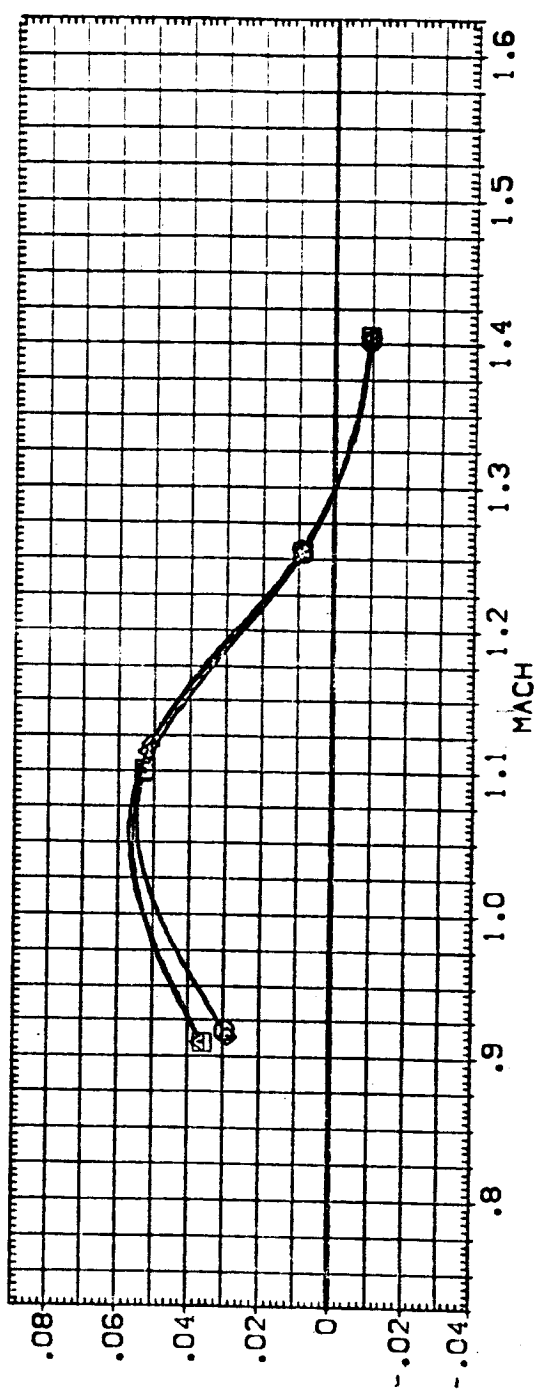
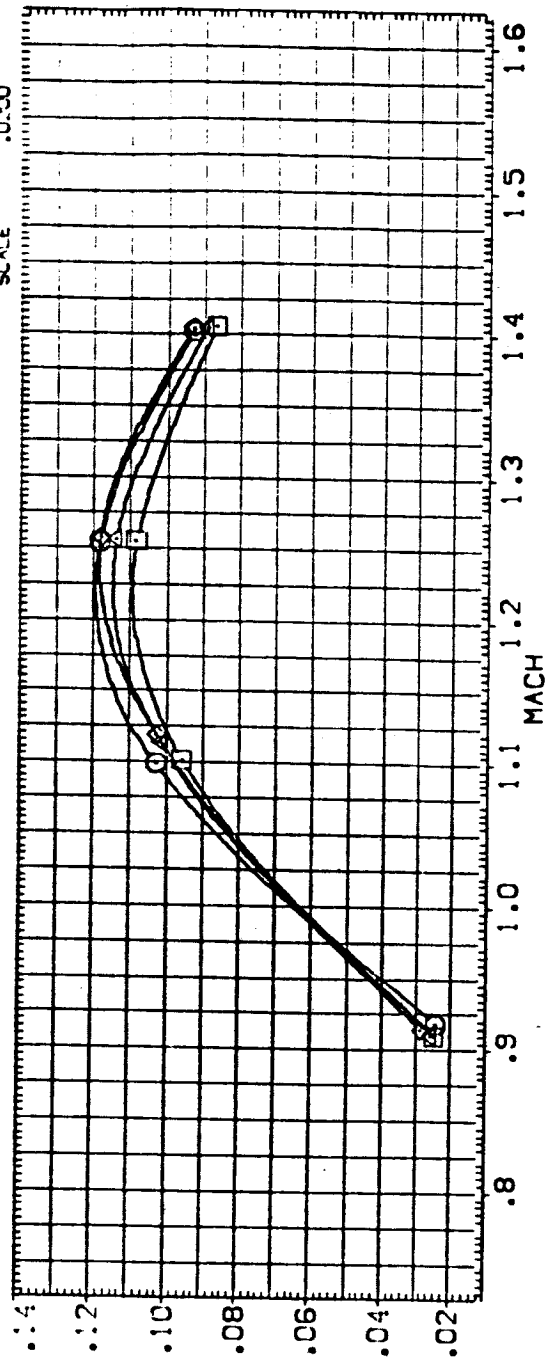
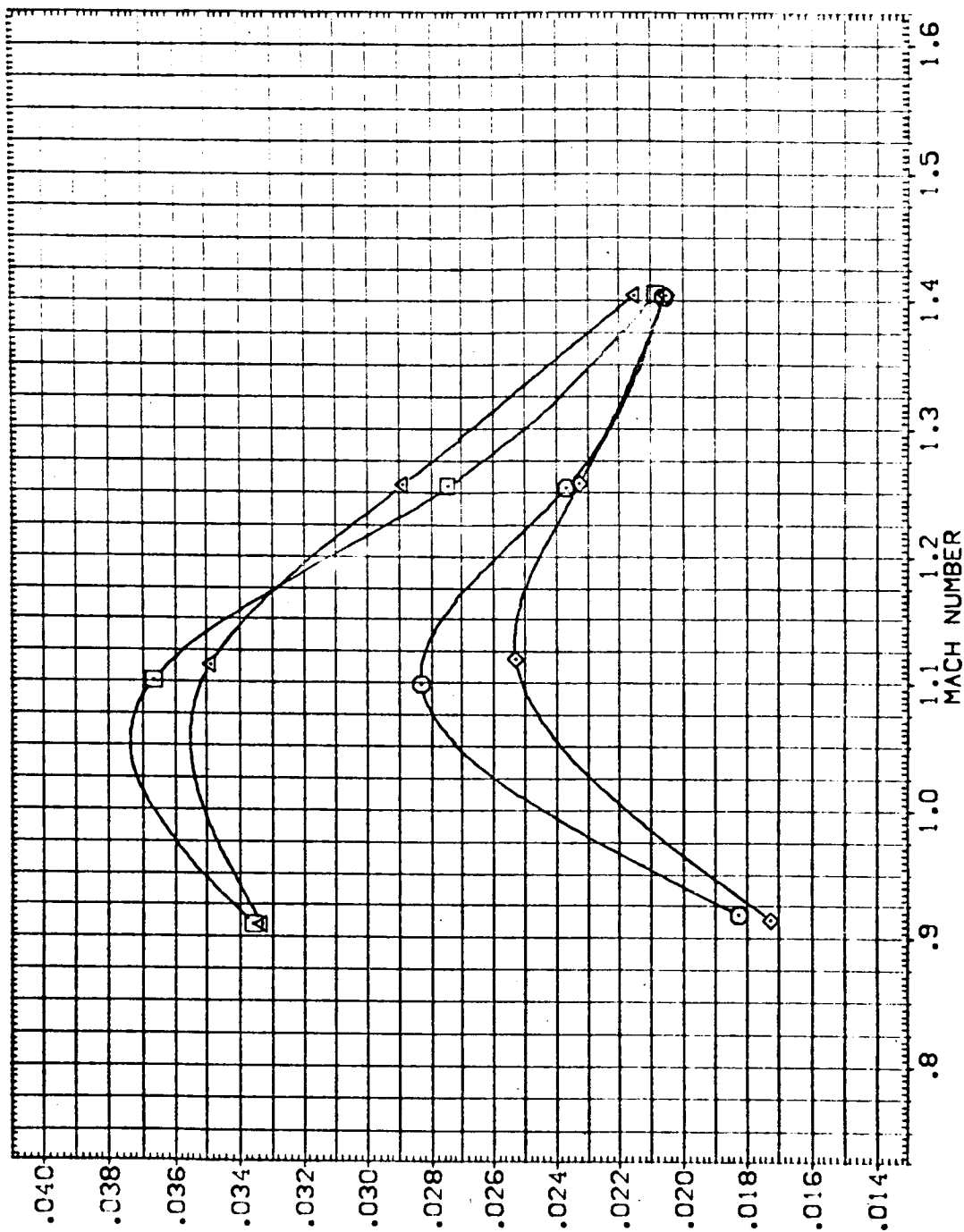


FIG. 80 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	ALPHA	GIMBAL	REFERENCE INFORMATION
[-EUC233]	ARC11-0141A19 OTS-STRUT SRS-OFF MPS-OFF	.000	.000	.000	1.000	SREF 2690.0000 SQ.FT. IN.
[-EUC237]	ARC11-0141A19 OTS-STRUT SRS-NOM MPS-NOM	.000	.000	.000	1.000	LREF 1290.3000 IN.
[-EUC231]	ARC11-0141A19 OTS-STRUT SRS-OFF MPS-OFF	.000	.000	.000	2.000	BREF 1290.3000 IN. XT
[-EUC235]	ARC11-0141A19 OTS-STRUT SRS-NOM MPS-NOM	.000	.000	.000	2.000	YREF 976.0000 IN. YI
						ZREF 400.0000 IN. ZI
						SCALE .0200



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 80 SUMMARY - EFFECT OF PLUMES - ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.0

CABETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

[EJ223] O ARC11-0141A19 OTS-STRUT SR8-OFF MPS-OFF
 [EJ227] X ARC11-0141A19 OTS-STRUT SR8-NOM MPS-NOM
 [EJ231] X ARC11-0141A19 OTS-STRUT SR8-OFF MPS-OFF
 [EJ235] X ARC11-0141A19 OTS-STRUT SR8-NOM MPS-NOM

ELV-1B ELV-08 ALPHA GIMBAL

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 576.0000 IN.
 YMRP 400.0000 IN.
 ZMRP 400.0000 IN.
 SCALE .0300

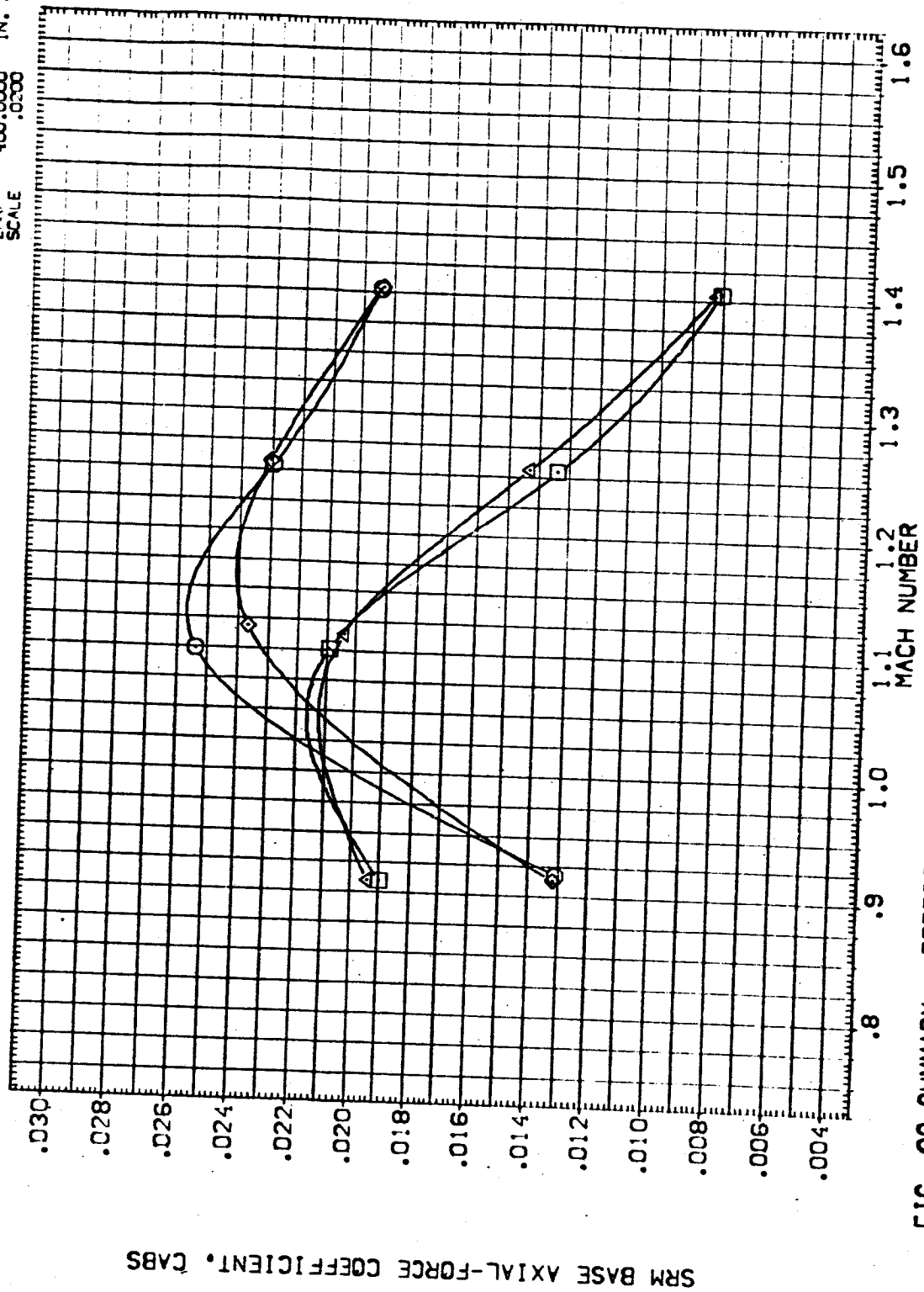


FIG. 80 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-08=0.0 ALPHA=0.0
 CABS = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-18	ELV-08	ALPHA	GIMBAL	REFERENCE INFORMATION
[HE023]	ARC11-0141A19 DTS+STRT SRB-OFF MPS-OFF	.000	.000	.000	1.000	SREF 2690.0000 SQ.FT.
[HE027]	ARC11-0141A19 DTS+STRT SRB-NOM MPS-NOM	.000	.000	.000	1.000	LREF 1290.3000 IN.
[HE031]	ARC11-0141A19 DTS+STRT SRB-OFF MPS-OFF	.000	.000	.000	2.000	BREF 1290.3000 IN.
[HE035]	ARC11-0141A19 DTS+STRT SRB-NOM MPS-NOM	.000	.000	.000	2.000	XMRP 976.0000 IN.
						YMRP .0000 IN.
						ZMRP .0000 IN.
						SCALE 400.0000

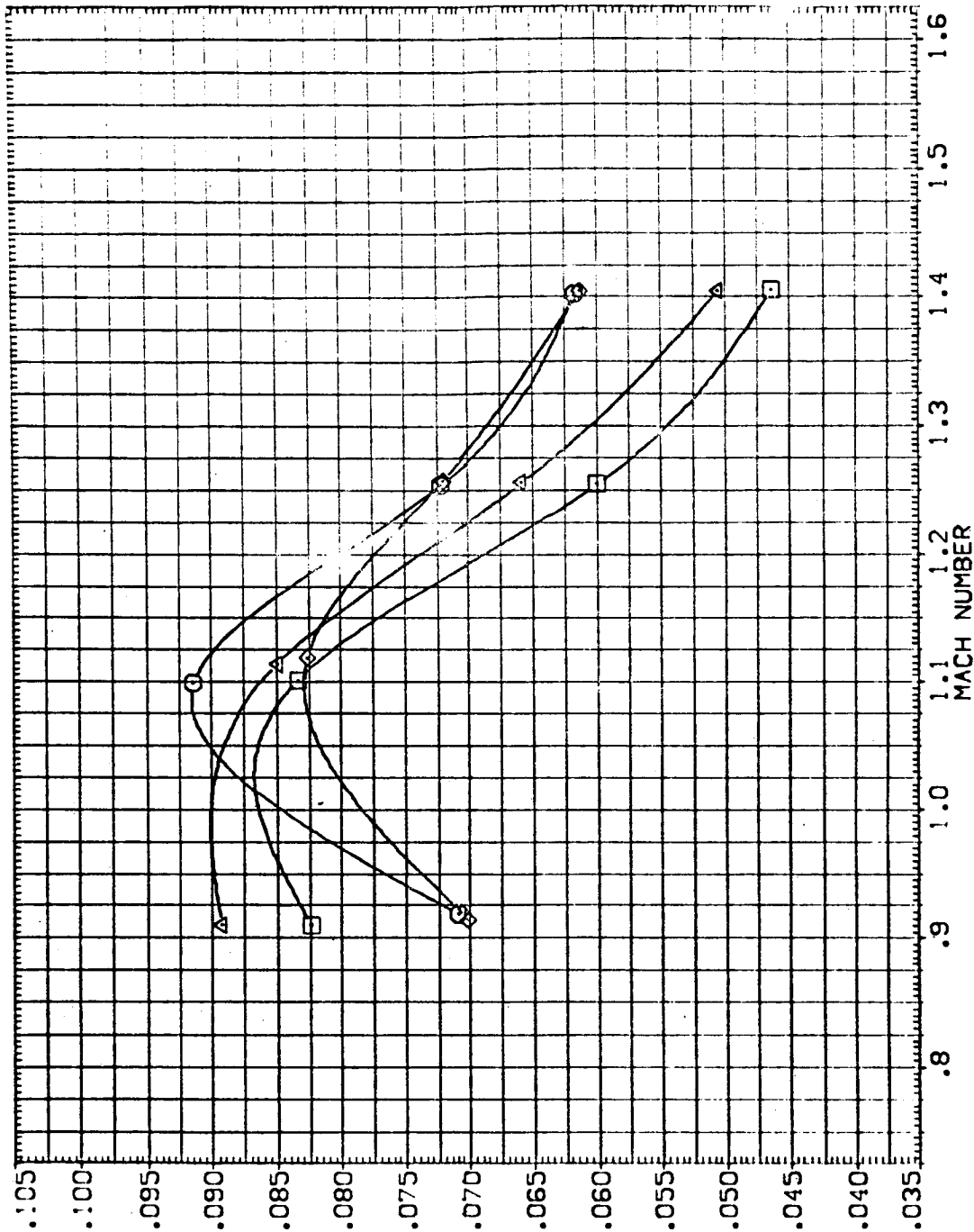


FIG. 80 SUMMARY - EFFECT OF PLUMES - ELV-18=0.0 ELV-08=0.0 ALPHA=0.0

(A)BETA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	ALPHA	GIMBAL	REFERENCE INFORMATION
[EU323]	ARC11-0141A19 DIS-STRUT SRS-OF MPS-OF	.000	.000	4.000	1.000	SREF 2690.0000 SQ.FT.
[EU327]	ARC11-0141A19 DIS-STRUT SRS-NOM MPS-NOM	.000	.000	4.000	1.000	LREF 1290.3000 IN.
[EU331]	ARC11-0141A19 DIS-STRUT SRS-OF MPS-OF	.000	.000	4.000	2.000	BREF 1290.3000 IN.
[EU335]	ARC11-0141A19 DIS-STRUT SRS-NOM MPS-NOM	.000	.000	4.000	2.000	XMRP 976.0000 IN.
						YMRP .0000 IN.
						ZMRP .0000 IN.
						SCALE 400.0000 IN. ZT

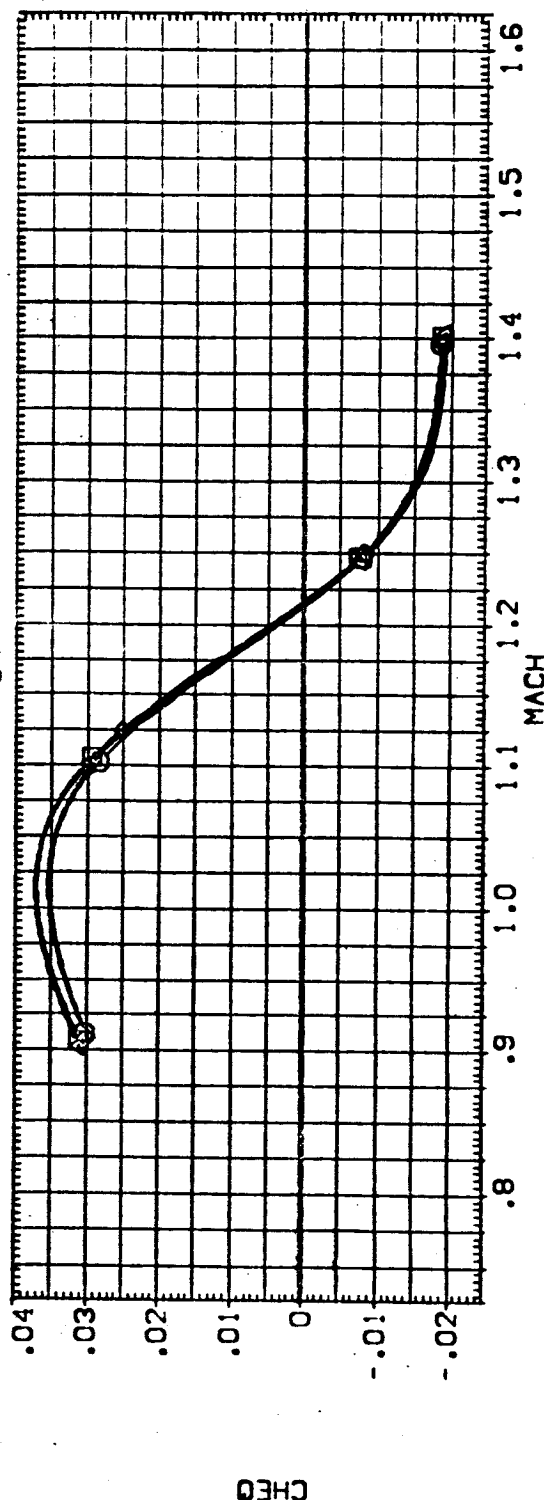
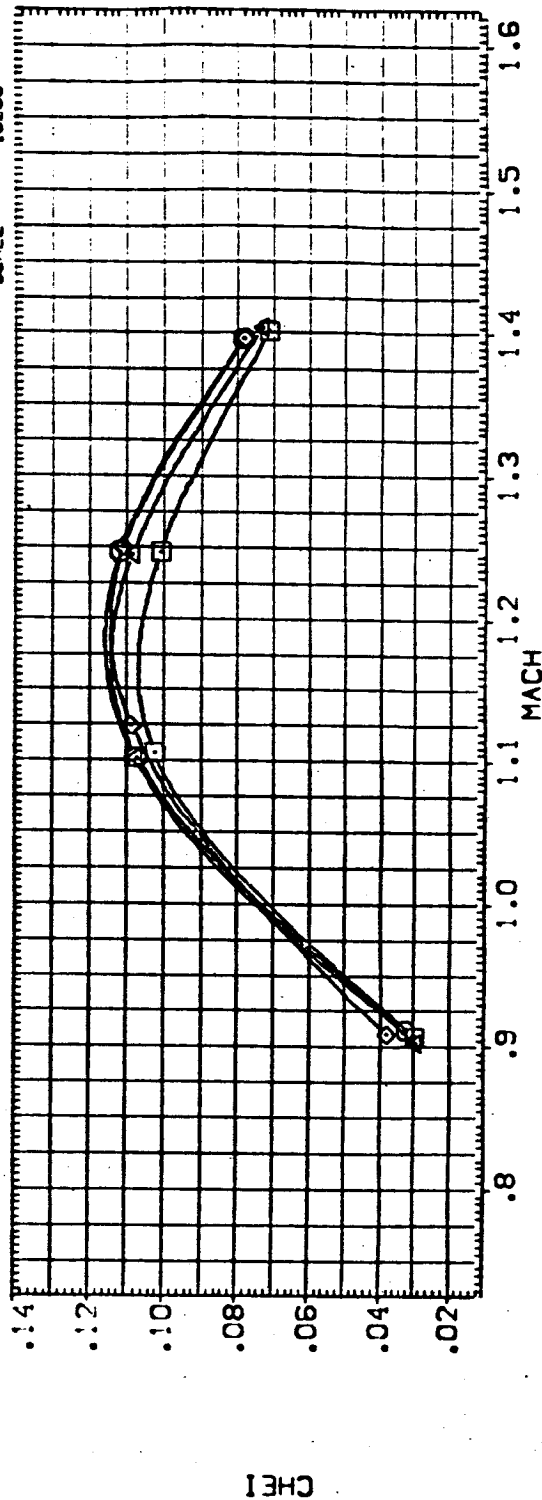


FIG. 81 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-0B=0.0 ALPHA=4.0

(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION

[EUC323] ARC11-0141A19 OTS-STRUT SRS-OFF MPS-OFF

[EUC327] ARC11-0141A19 OTS-STRUT SRS-NOM MPS-NOM

[EUC331] ARC11-0141A19 OTS-STRUT SRS-OFF MPS-OFF

[EUC335] ARC11-0141A19 OTS-STRUT SRS-NOM MPS-NOM

ELV-18 ELV-08 ALPHA GIMBAL

.000 .000 4.000 1.000

.000 .000 4.000 1.000

.000 .000 4.000 2.000

.000 .000 4.000 2.000

REFERENCE INFORMATION

SREF 2690.0000 SQ.FT.

LREF 1290.3000 IN.

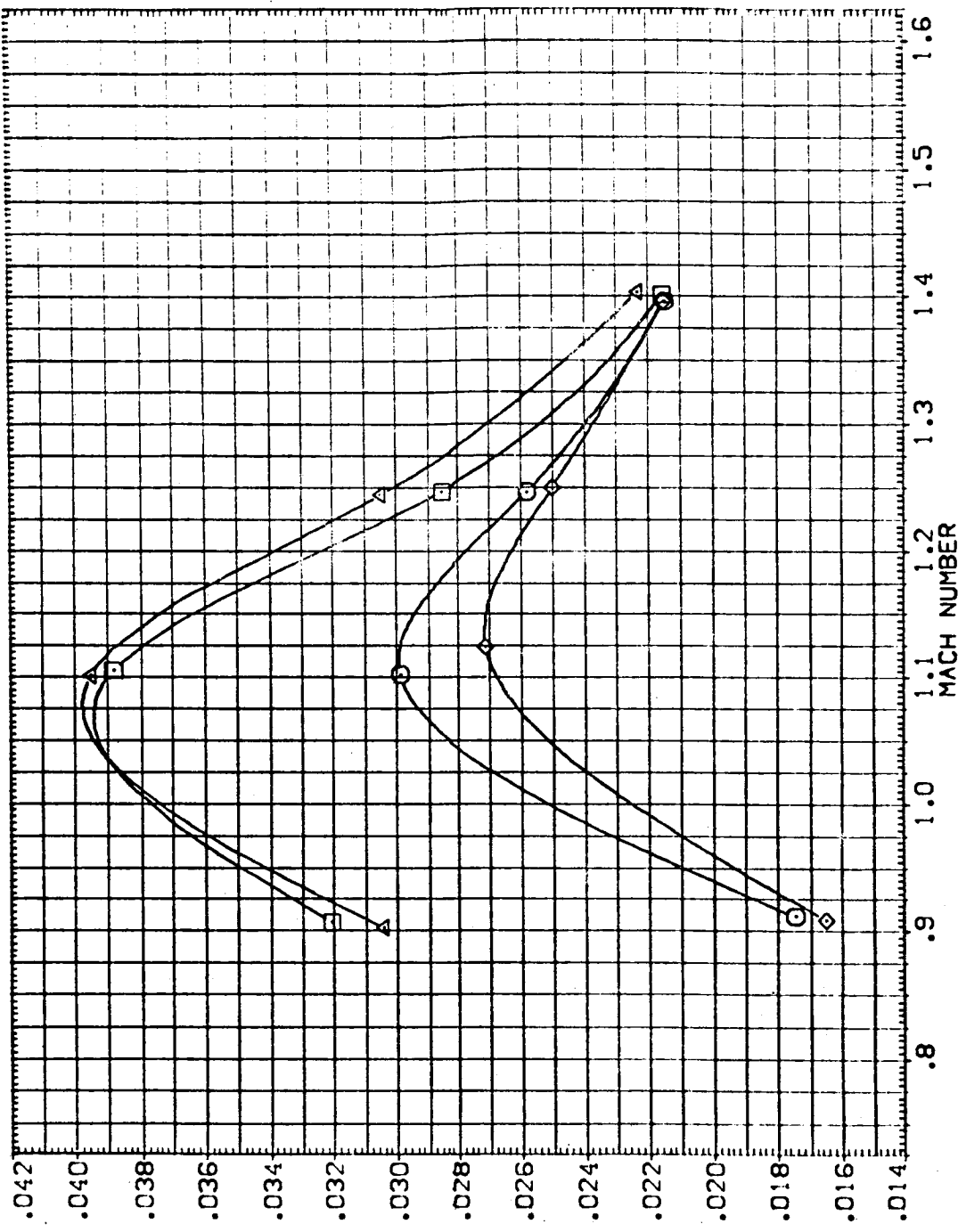
BREF 1290.3000 IN.

XMRP 976.0000 IN.

YMRP 400.0000 IN.

ZMRP 400.0000 IN.

SCALE .0200



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 81 SUMMARY - EFFECT OF PLUMES - ELV-18=0.0 ELV-08=0.0 ALPHA=4.0

CABETA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	ALPHA	GINBAL	REFERENCE INFORMATION
ARC11-0141A19	OTS+STRUT SRS-OFF MPS-OFF	.000	.000	4.000	1.000	SREF 2590.0000 SQ.FT.
ARC11-0141A19	OTS+STRUT SRS-NOM MPS-NOM	.000	.000	4.000	1.000	LREF 1750.3000 IN.
ARC11-0141A19	OTS+STRUT SRS-OFF MPS-OFF	.000	.000	4.000	2.000	BREF 1750.3000 IN.
ARC11-0141A19	OTS+STRUT SRS-NOM MPS-NOM	.000	.000	4.000	2.000	XREF 976.0000 IN.
						YREF 400.0000 IN.
						ZREF 400.0000 IN.
						SCALE .000

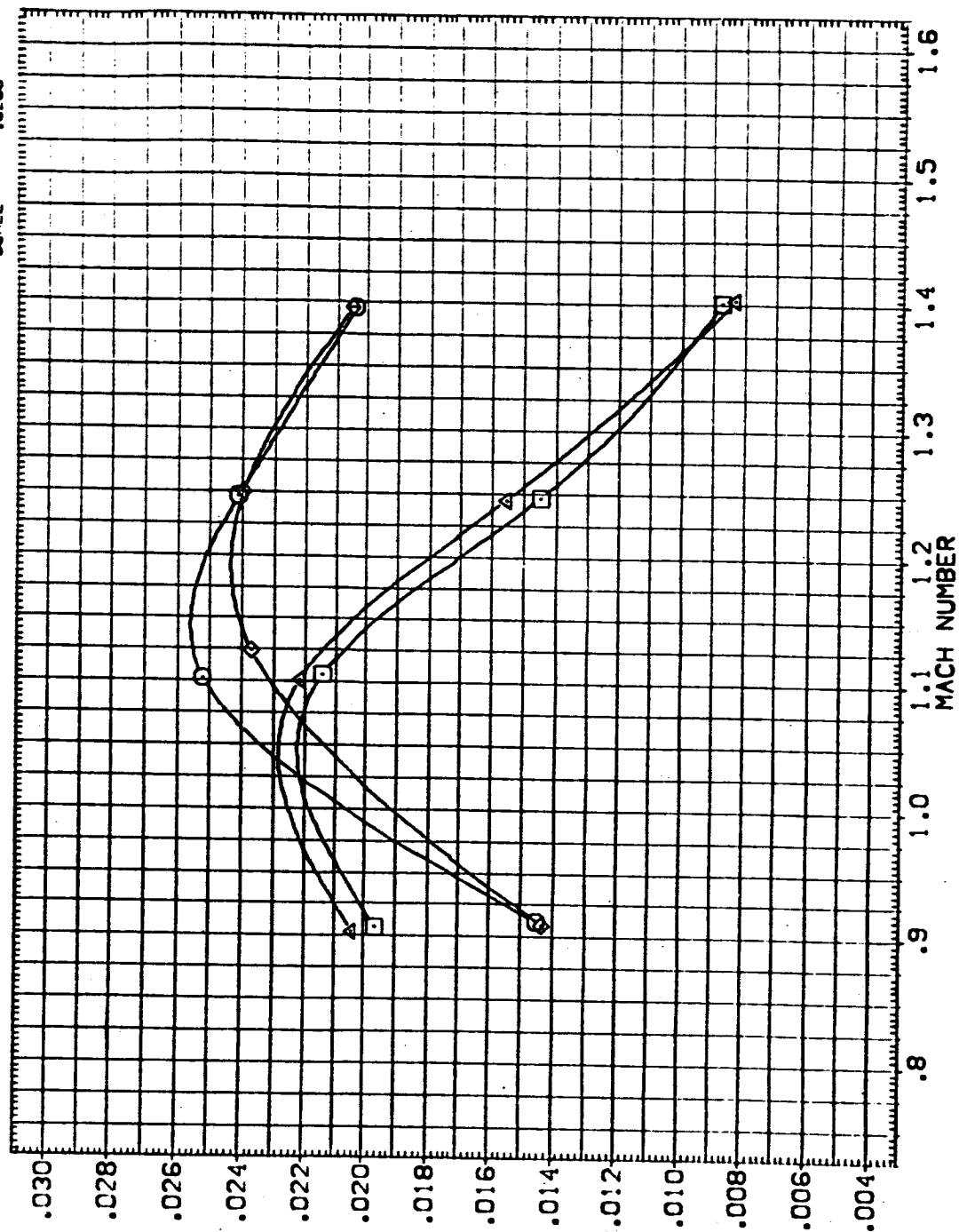


FIG. 81 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-0B=0.0 ALPHA=4.0

(A)BETA = .00



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	ALPHA	GIMBAL	REFERENCE INFORMATION
[+EJ323]	ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF	.000	.000	4.000	1.000	SREF 2690.0000 SO.FT.
[+EJ327]	ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM	.000	.000	4.000	1.000	LREF 1290.3000 IN.
[+EJ331]	ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF	.000	.000	4.000	2.000	BREF 1290.3000 IN.
[+EJ335]	ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM	.000	.000	4.000	2.000	XMRP 976.0000 IN.
						YMRP 400.0000 IN.
						ZMRP 400.0000 IN.
						SCALE .0200

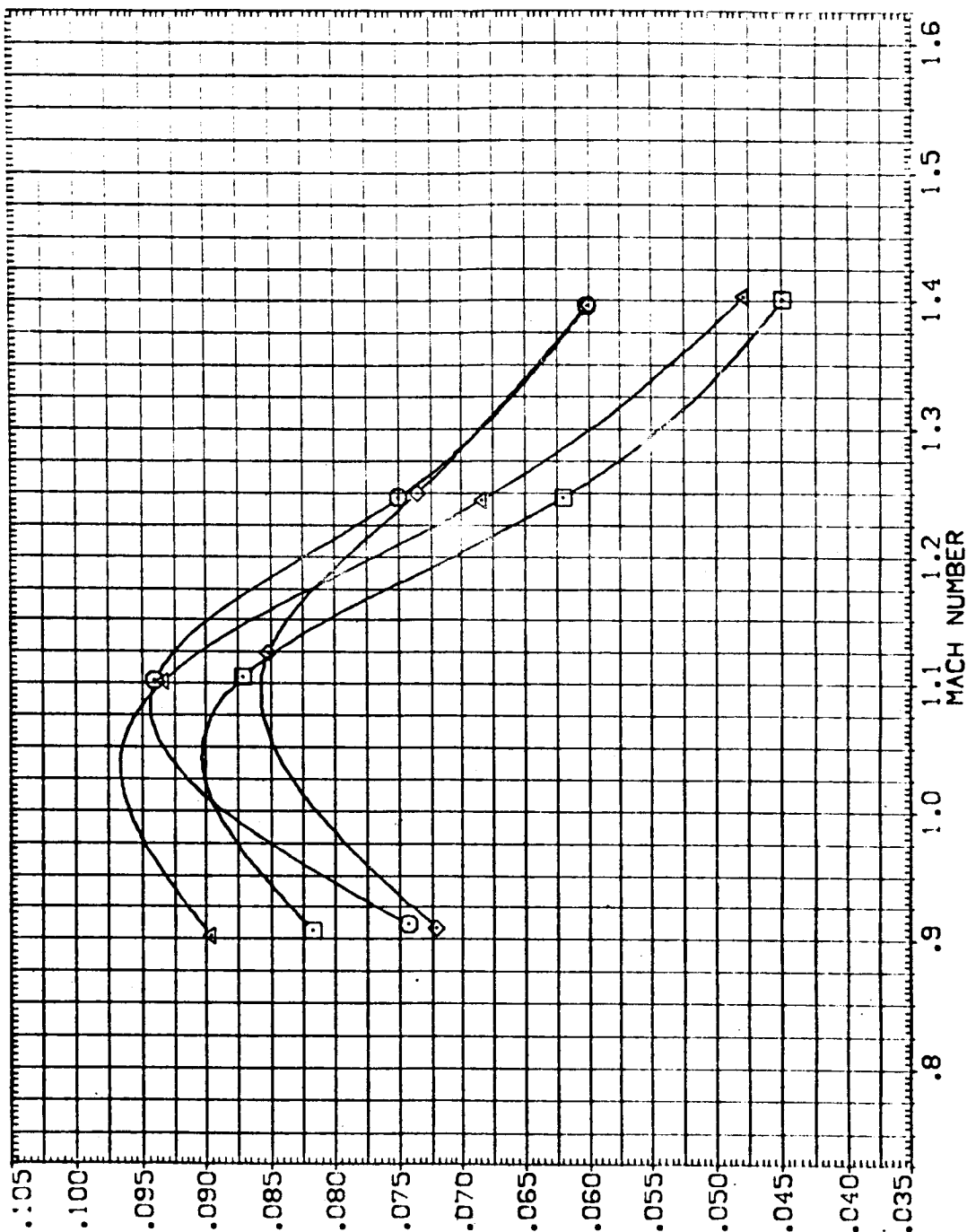


FIG. 81 SUMMARY - EFFECT OF PLUMES - ELV-IB=0.0 ELV-OB=0.0 ALPHA=4.0

CABETA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-18	ELV-08	ALPHA	GIMBAL	REFERENCE INFORMATION
[EJ129]	ARC11-0141A19 OTS	.000	.000	-8.000	1.000	SREF 2690.0000 50.FT.
[EJ143]	ARC11-0141A19 OTS	.000	.000	-8.000	1.000	LREF 1290.3000 IN.
						BREF 1290.3000 IN.
						XMRP 976.0000 IN. XT
						YMRP 400.0000 IN. YT
						ZMRP 400.0000 IN. ZT
						SCALE .0200

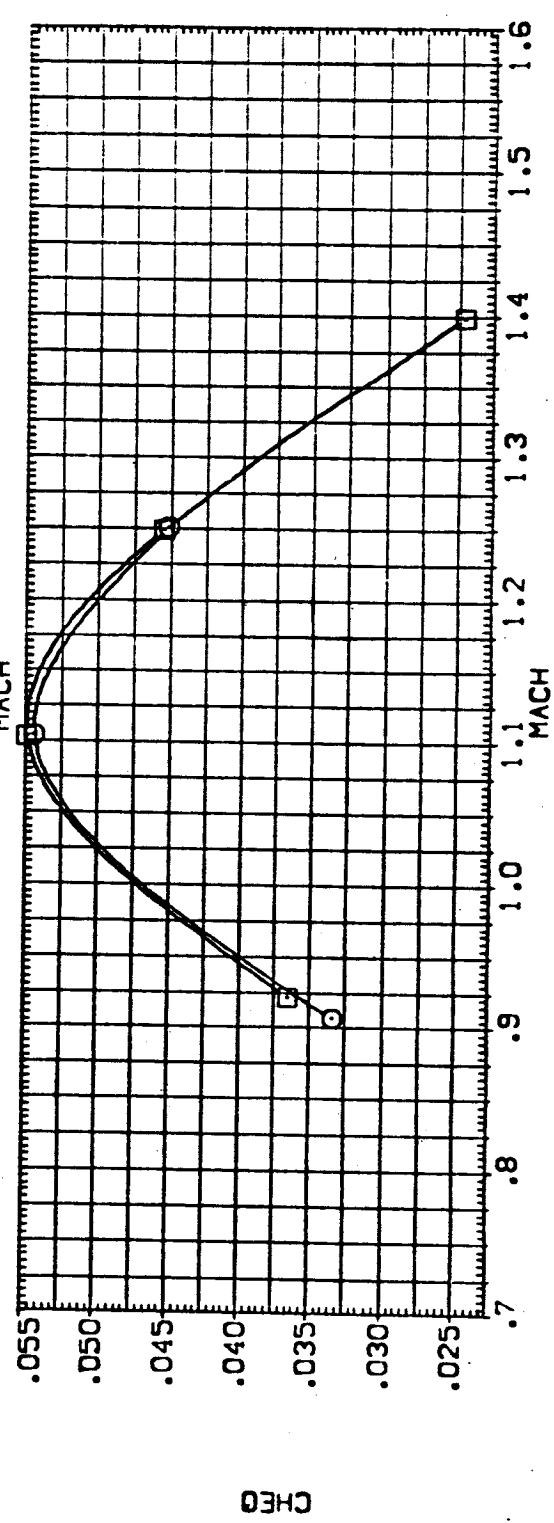
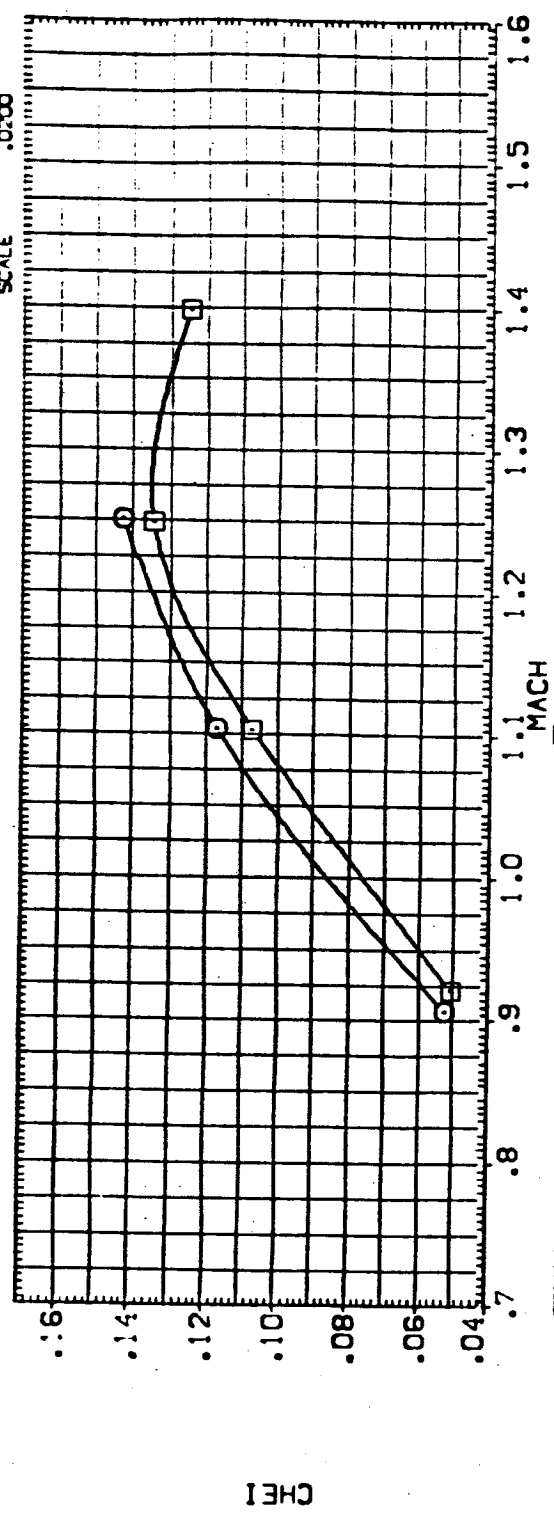


FIG. 82 SUMMARY - EFFECT OF PLUMES - ELV-18=0.0 ELV-08=0.0 ALPHA=-8.0
 (A)BETA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	ALPHA	GIMBAL	REFERENCE INFORMATION
(HEJ139)	ARC11-0141A19 OTS	.000	.000	-8.000	1.000	SREF 2690.0000 SQ.FT.
(HEJ143)	ARC11-0141A19 OTS	.000	.000	-8.000	1.000	LREF 1290.3000 IN.
						BREF 1290.3000 IN.
						XMRP 576.0000 IN.
						YMRP .0000 IN.
						ZMRP 400.0000 IN.
						SCALE .0200

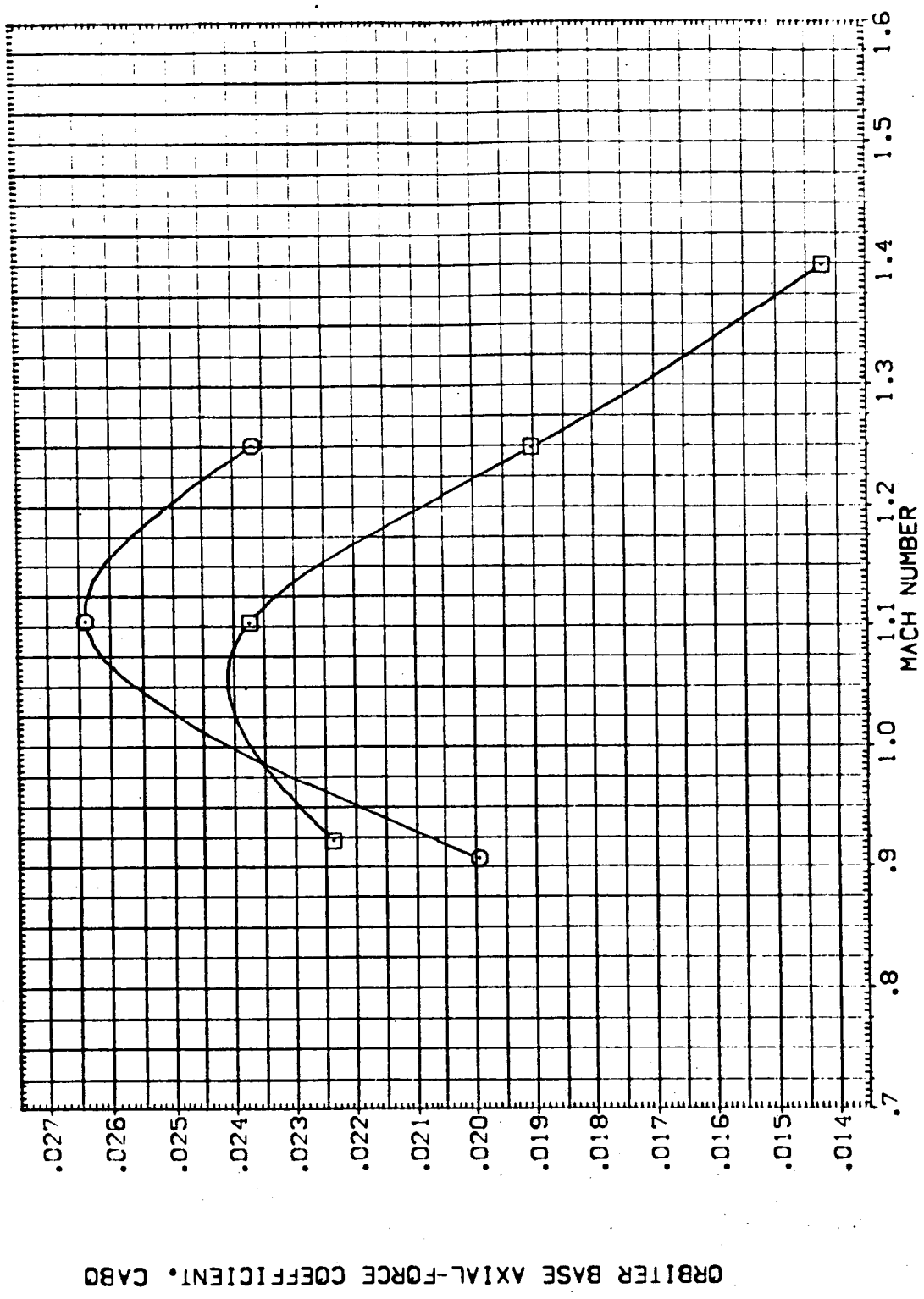


FIG. 82 SUMMARY - EFFECT OF PLUMES - ELV-IB=0.0 ELV-OB=0.0 ALPHA=-8.0

(A)BETA = .00



DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
[HELI38]	○	ARC11-0141A19 OTS	SRB-OFF MPS-OFF	SREF	2690.0000
[HELI43]		ARC11-0141A19 OTS	SRB-NOM MPS-OFF	LREF	1290.3000
				BREF	1290.3000
				VMRP	976.0000
				ZMRP	400.0000
				SCALE	.0200
				ALPHA	-8.000
				ELV-08	.000
				ELV-18	.000
				GIMBAL	1.000
					1.000
					IN. XT
					IN. YT
					IN. ZT

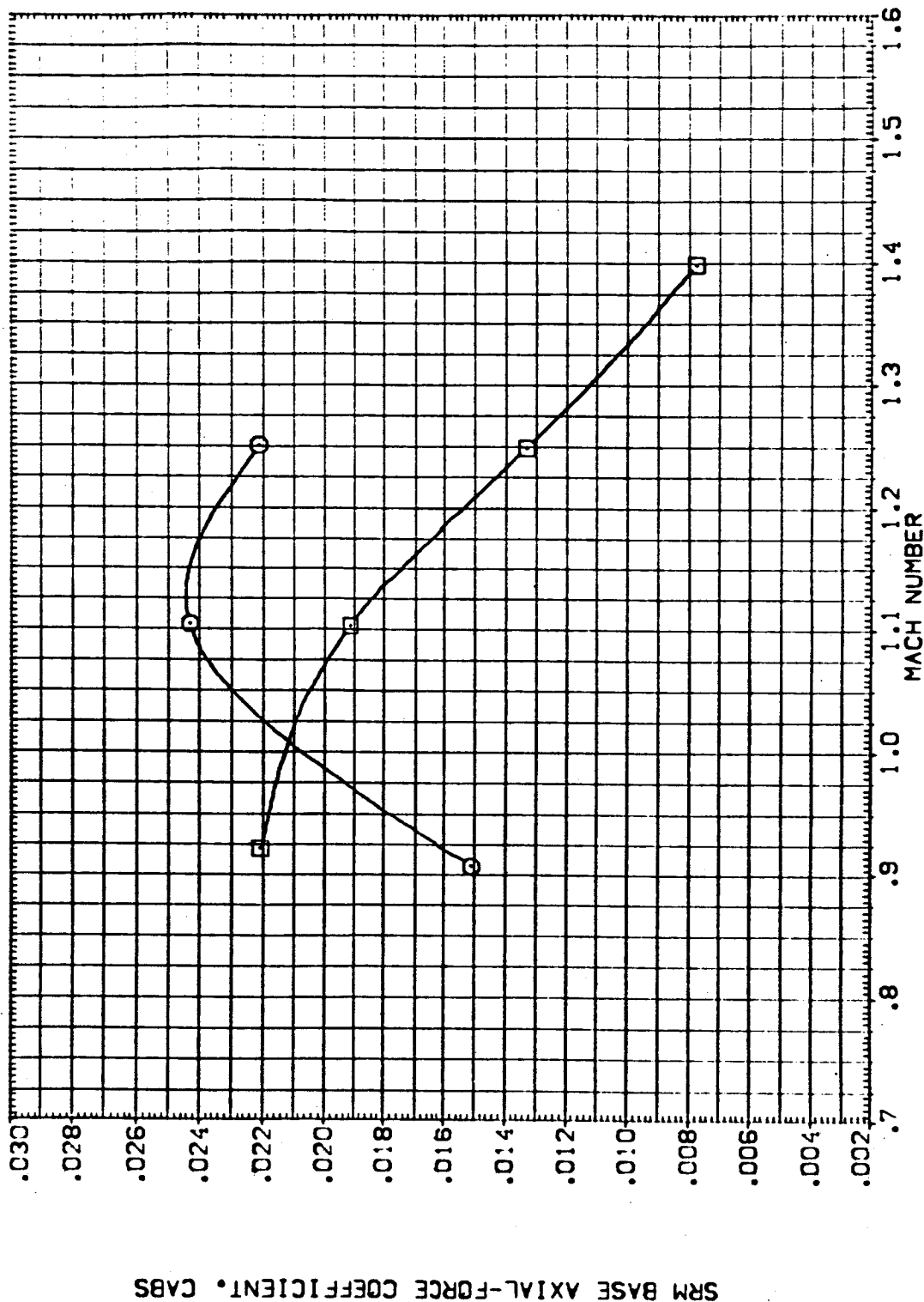
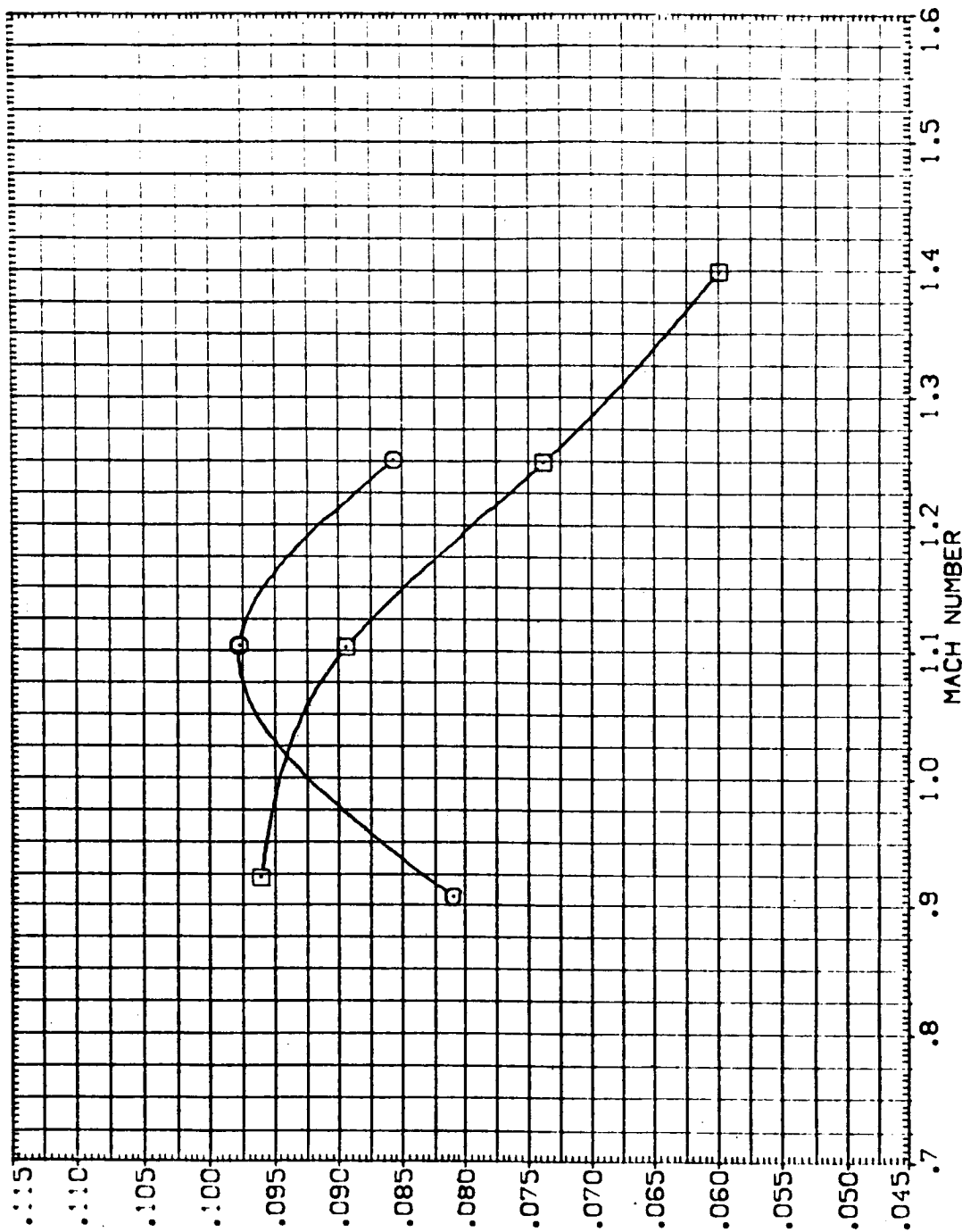


FIG. 82 SUMMARY - EFFECT OF PLUMES - ELV-18=0.0 ELV-08=0.0 ALPHA=-8.0

CABETA = .00

DATA S: 1 SYMB. CONFIGURATION DESCRIPTION REFERENCE INFORMATION

SYMB	CONFIGURATION DESCRIPTION	ELV-08	ALPHA	GIMBAL	SREF	2690.0000	50.FT.
ARC11-0141A19 01S	S98-0FF MPS-0FF	.000	-8.000	1.000	LREF	1290.3000	IN.
ARC11-0141A19 01S	S98-NOM MPS-0FF	.000	-8.000	1.000	BREF	1290.3000	IN.
					XMRP	976.0000	IN. XT
					YMRP	.0000	IN. YT
					ZMRP	400.0000	IN. ZT
					SCALE	.0200	



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 82 SUMMARY - EFFECT OF PLUMES - ELV-08=0.0 ELV-08=-8.0 ALPHA=-8.0

(A)BETA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	ALPHA	Q/MBAL	REFERENCE INFORMATION
(+0229)	ARC11-0141A19 OTS	.000	.000	-4.000	1.000	SREF 2690.0000 SQ.FT.
(+0243)	ARC11-0141A19 OTS	.000	.000	-4.000	1.000	LREF 1290.3000 IN.
						BREF 1290.3000 IN.
						XMRP 976.0000 IN. XT
						YMRP 400.0000 IN. YT
						ZMRP 400.0000 IN. ZT
						SCALE .0200

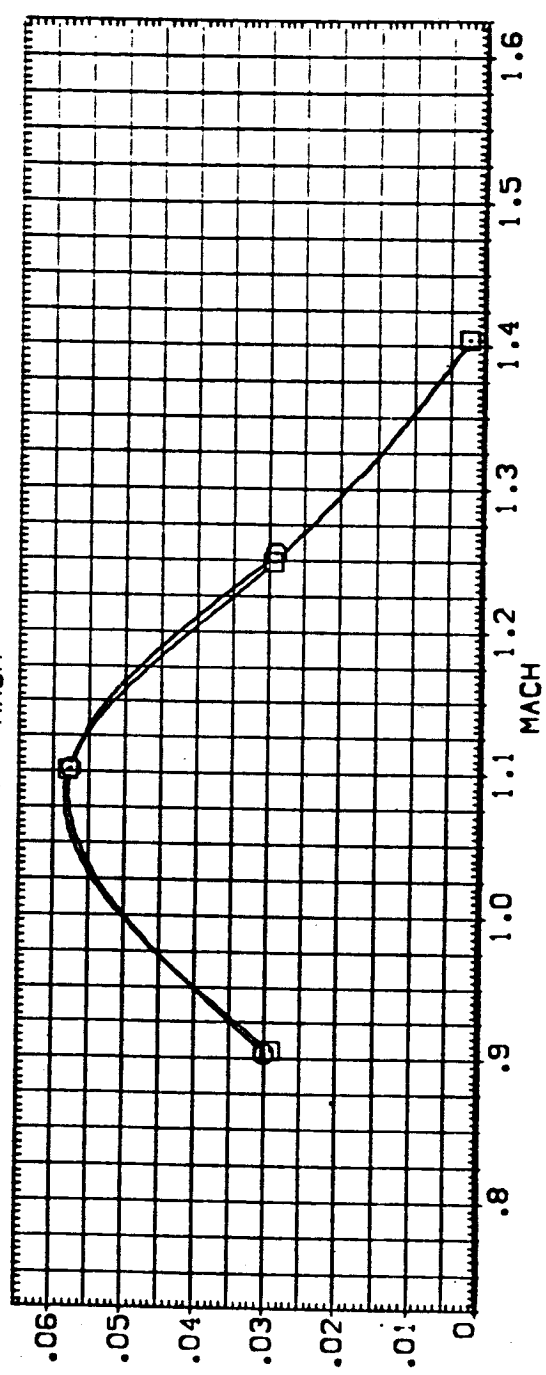
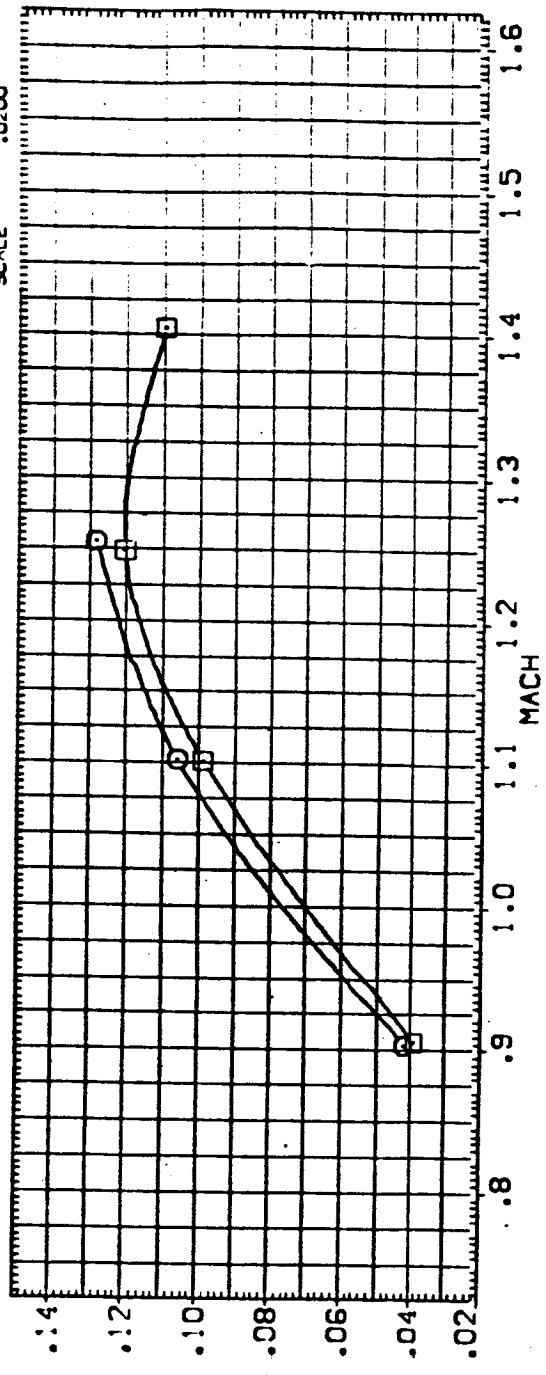
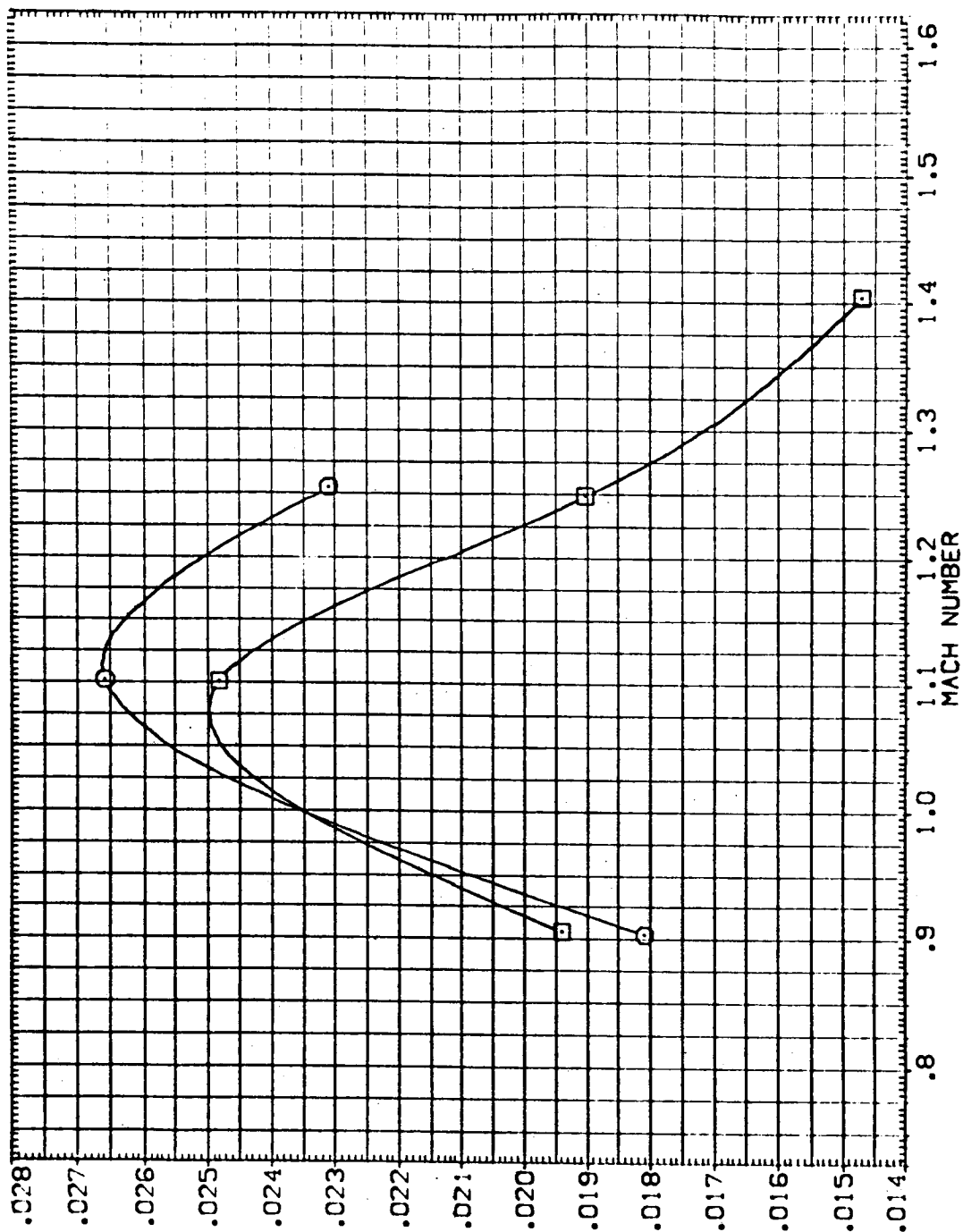


FIG. 83 SUMMARY - EFFECT OF PLUMES - ELV-IB=0.0 ELV-OB=0.0 ALPHA=-4.0

CABETA = .00

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		ELV-18		ELV-08		ALPHA		GIMBAL		REFERENCE INFORMATION	
{HEC239}	○	ARC11-0141A19	OTS	SRB-OFF	MPS-OFF	.000	.000	-4.000	1.000	SREF	2690.0000	SD.FT.	
{HEC243}		ARC11-0141A19	OTS	SRB-NOM	MPS-OFF	.000	.000	-4.000	1.000	LREF	1290.3000	IN.	
										BREF	1290.3000	IN.	
										YMRP	976.0000	IN.	
										ZMRP	400.0000	IN.	
										SCALE	.0200		



ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

FIG. 83 SUMMARY - EFFECT OF PLUMES - ELV-18=0.0 ELV-08=0.0 ALPHA=-4.0

CABETA = .00

DATA SET SYMBOL: C
 CONFIGURATION DESCRIPTION: ARC11-0141A19 QTS
 SRB-0FF MPS-0FF
 SRB-NON MPS-0FF

REFERENCE INFORMATION
 SRB: 2590.0000 50.FT.
 LRFB: 1290.3000 IN.
 BRFB: 1290.3000 IN.
 XMRP: 976.0000 IN.
 YMRP: .0000 IN.
 ZMRP: 400.0000 IN.
 SCALE: .0200

ELV-IB: .000
 ELV-OB: .000
 ALPHA: -4.000
 GIMBAL: 1.000
 J.000

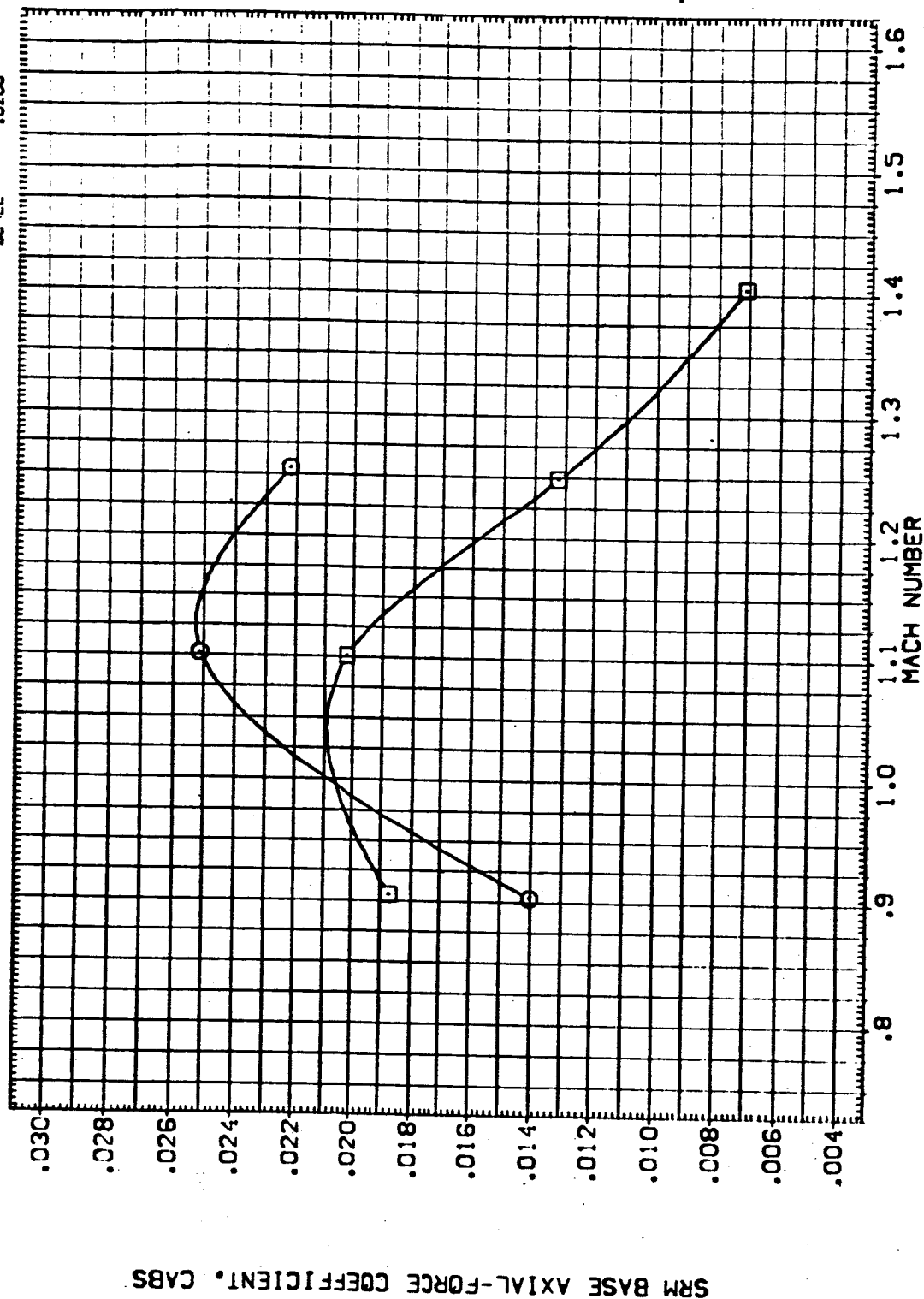


FIG. 83 SUMMARY - EFFECT OF PLUMES - ELV-IB=0.0 ELV-OB=0.0 ALPHA=-4.0

CABETA = .00

C-4

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	ALPHA	GIMBAL	REFERENCE INFORMATION
[H-238]	ARC11-0141A19 OTS	.000	.000	-4.000	1.000	SREF 2690.0000
[H-243]	ARC11-0141A19 OTS	.000	.000	-4.000	1.000	LREF 1290.3000
						BREF 1290.3000
						XMRP 976.0000
						YMRP .0000
						ZMRP .0000
						SCALE 400.0000
						SO.FT. .0200

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

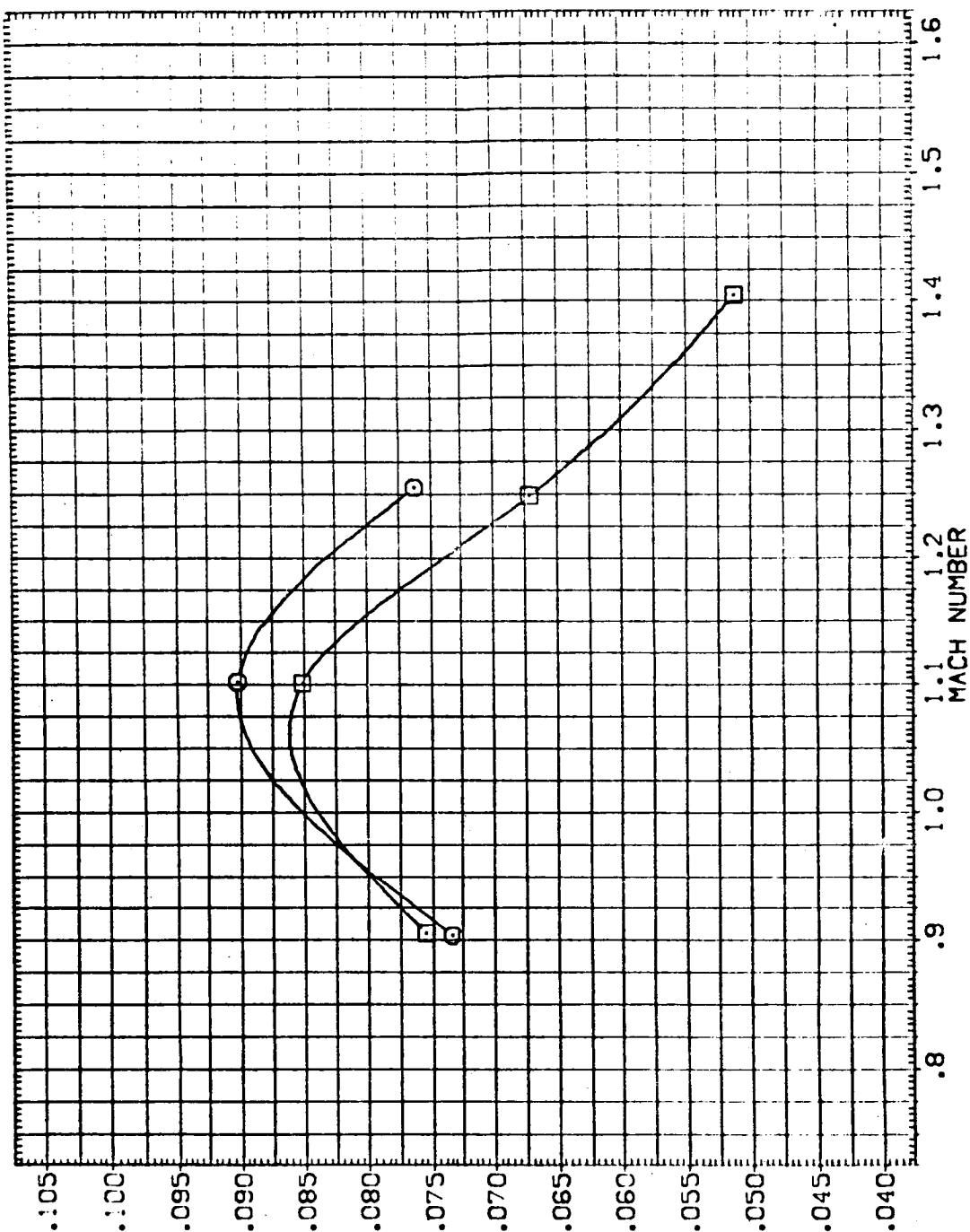


FIG. 83 SUMMARY - EFFECT OF PLUMES - ELV-IB=0.0 ELV-OB=0.0 ALPHA=-4.0

(A)BETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION

[1-339] ○ ARC 1-0141A19 Q15 SRB-OFF MPS-OFF

[1-3313] □ ARC 1-0141A19 Q15 SRB-NOM MPS-OFF

REFERENCE INFORMATION

SREF 2850.0000 SQ.FT.

LREF 1250.3000 IN.

BREF 1250.3000 IN.

XMRP 976.0000 IN.

YMRP 400.0000 IN.

ZMRP 400.0000 IN.

SCALE .0200

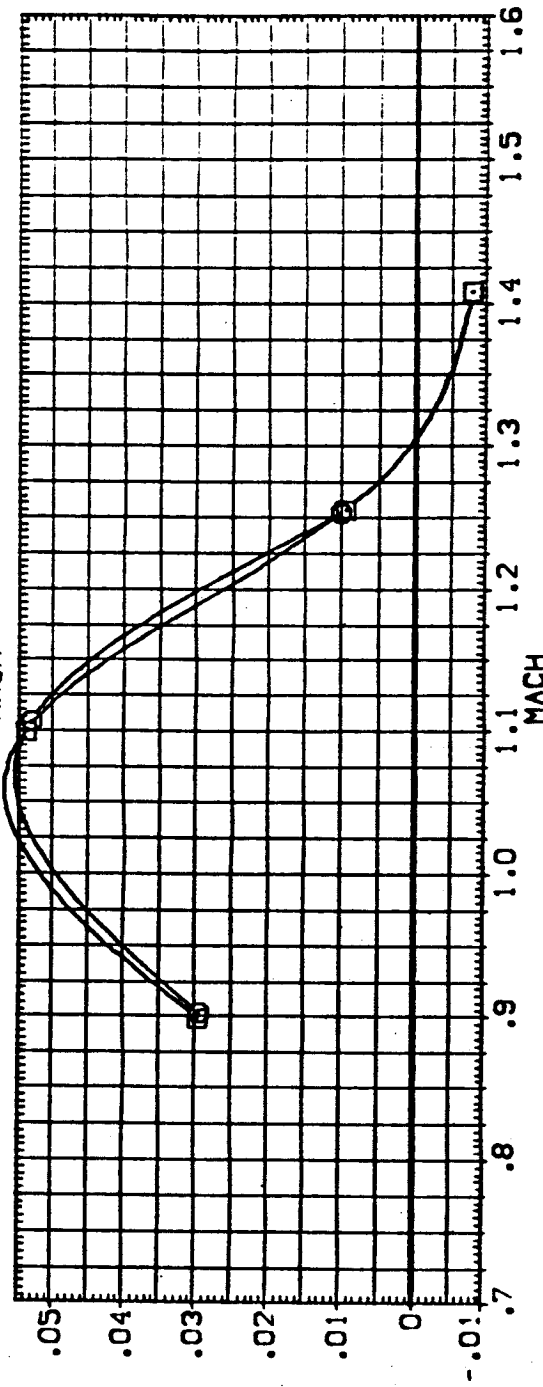
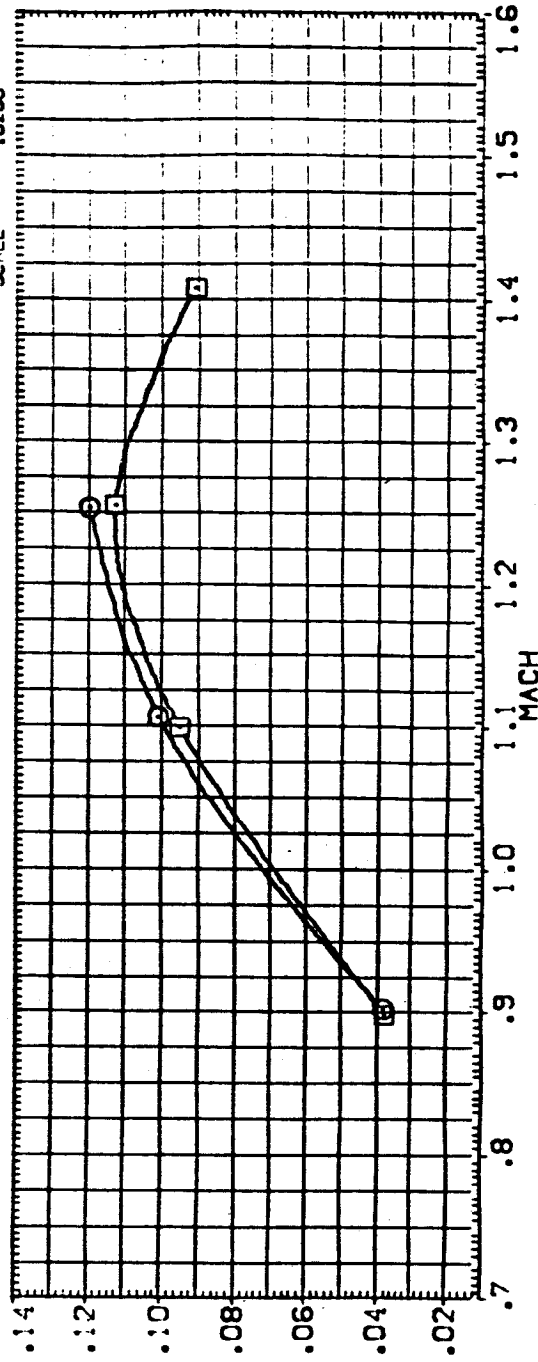


FIG. 84 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-08=0.0 ALPHA=0.0

CABETA = .00

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
[HEU339]	○	ARC11-0141A19 OTS	SRS-0FF MPS-0FF	SREF	2690.0000 SQ.FT.
[HEU313]	□	ARC11-0141A19 OTS	SRS-NOM MPS-0FF	LREF	1290.3000 IN.
				SREF	1290.3000 IN.
				AMRP	976.0000 IN. XT
				YMMP	0.0000 IN. YT
				ZMMP	0.0000 IN. ZT
				SCALE	400.0000
					.0200

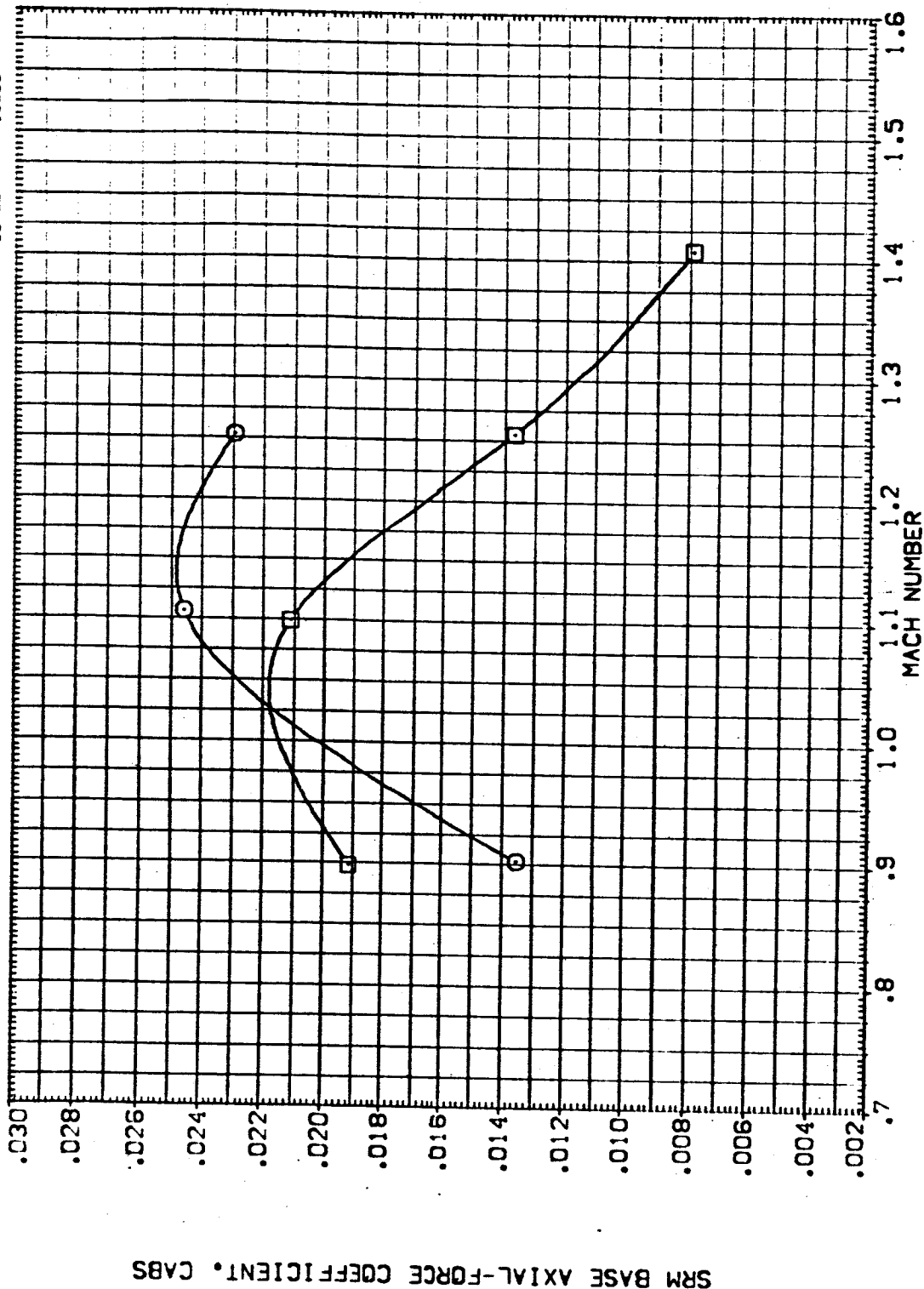


FIG. 84 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-0B=0.0 ALPHA=0.0

CABETA = .00

DATA SET SYMBOL: 0141A19 01S
 CONFIGURATION DESCRIPTION: SRB-OFF MPS-OFF
 SRB-NOM MPS-OFF

REFERENCE INFORMATION:
 SREF: 2690.0000 SQ.FT.
 LREF: 1290.3000 IN.
 BREF: 1290.3000 IN.
 XMRP: 576.0000 IN.
 YMRP: 400.0000 IN.
 ZMRP: 400.0000 IN.
 SCALE: .0200

EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

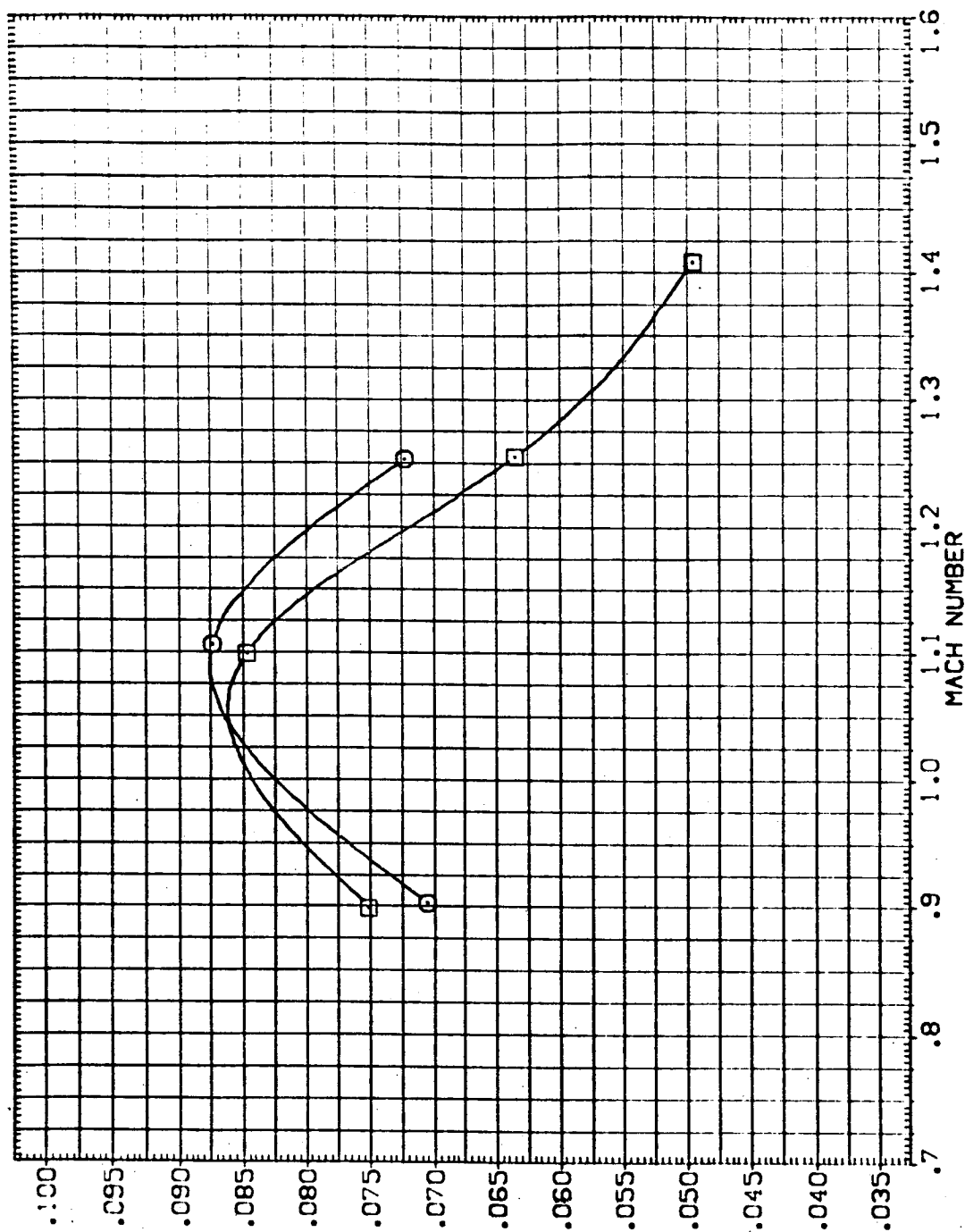


FIG. 84 SUMMARY - EFFECT OF PLUMES - ELV-IB=0.0 ELV-OB=0.0 ALPHA=0.0

(A)BETA = .00



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-1B	ELV-0B	ALPHA	GIMBAL	REFERENCE INFORMATION
(-EU439)	ARC11-0141A19 01S	.000	.000	4.000	1.000	SREF 2690.0000 50.FT.
(-EU443)	ARC11-0141A19 01S	.000	.000	4.000	1.000	LREF 1290.3000 IN.
						BREF 1290.3000 IN.
						XMRP 976.0000 IN. XT
						YMRP 400.0000 IN. YT
						ZMRP 400.0000 IN. ZT
						SCALE .0200

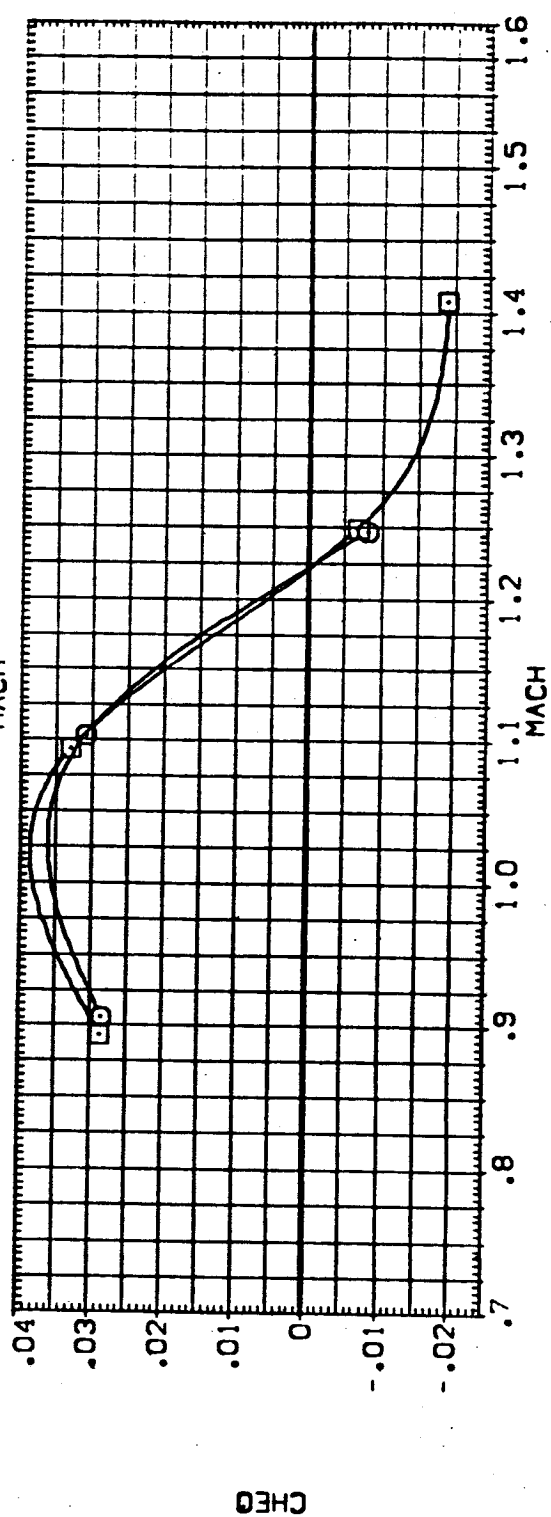
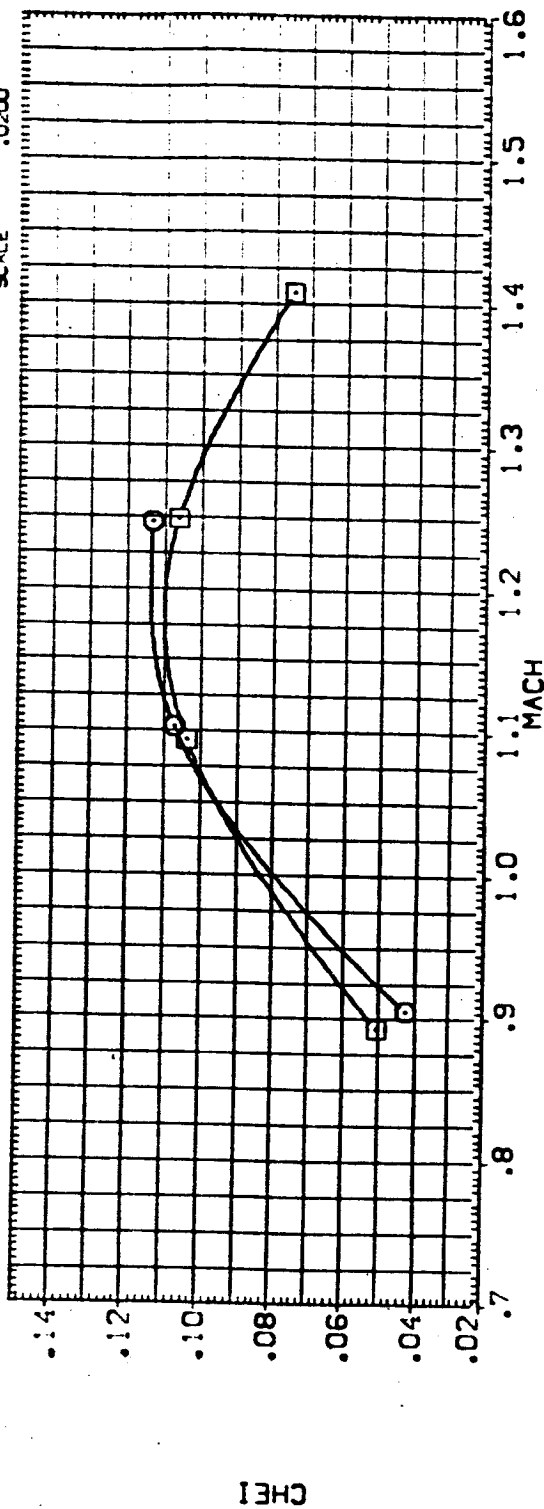


FIG. 85 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-0B=0.0 ALPHA=4.0

(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION REFERENCE INFORMATION

[H-439]	ARC11-0141A19 01S	SREF 2690.0000	SO.FT.
[H-413]	ARC11-0141A19 01S	LREF 1290.3000	IN.
		BREF 1290.3000	IN.
		XMRD 976.0000	IN.
		YMRD 400.0000	IN.
		ZMRD 400.0000	IN.
		SCALE .0200	

ELV-1B ELV-0B ALPHA GIMBAL

.000 .000 4.000 1.000

.000 .000 4.000 1.000

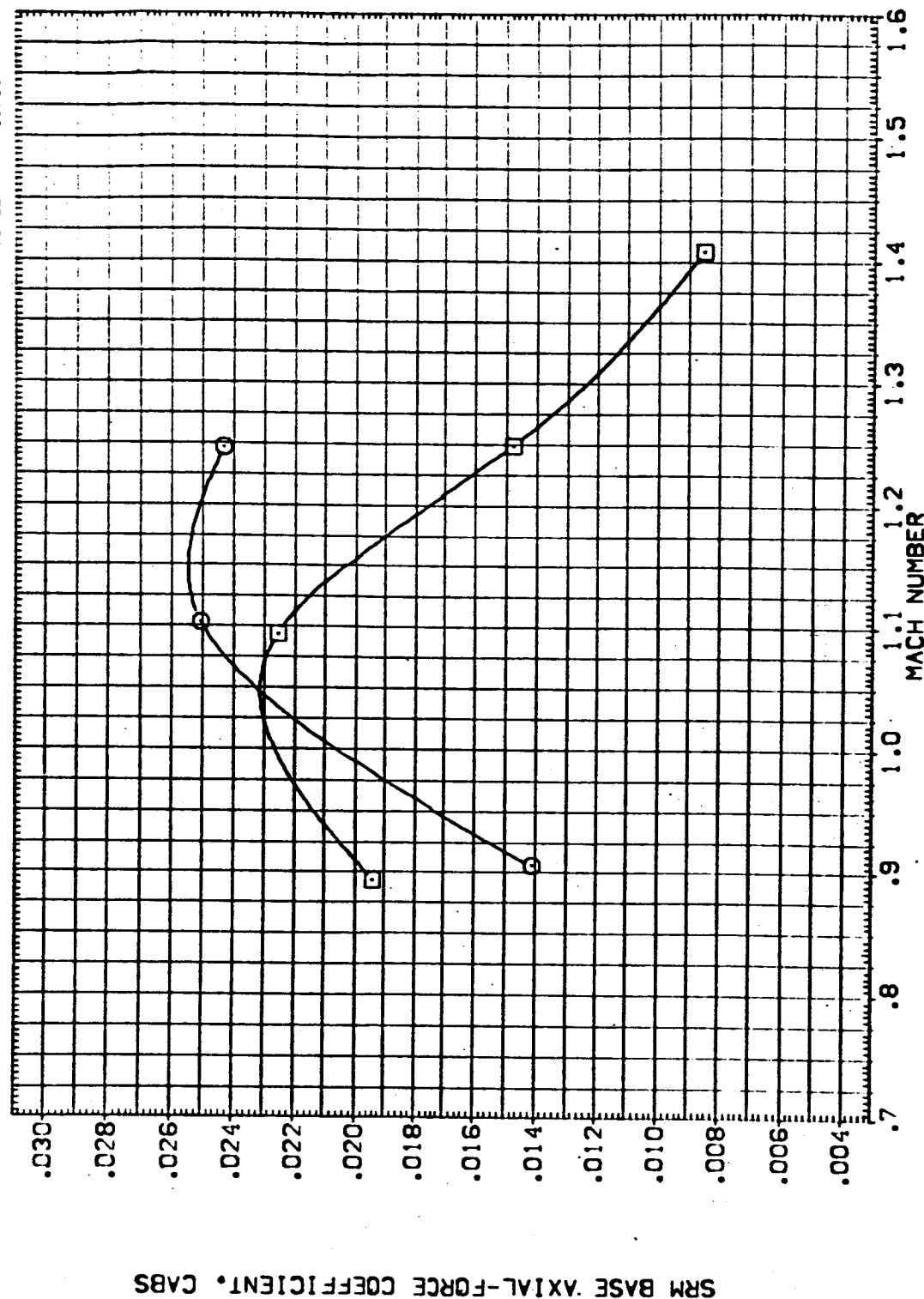


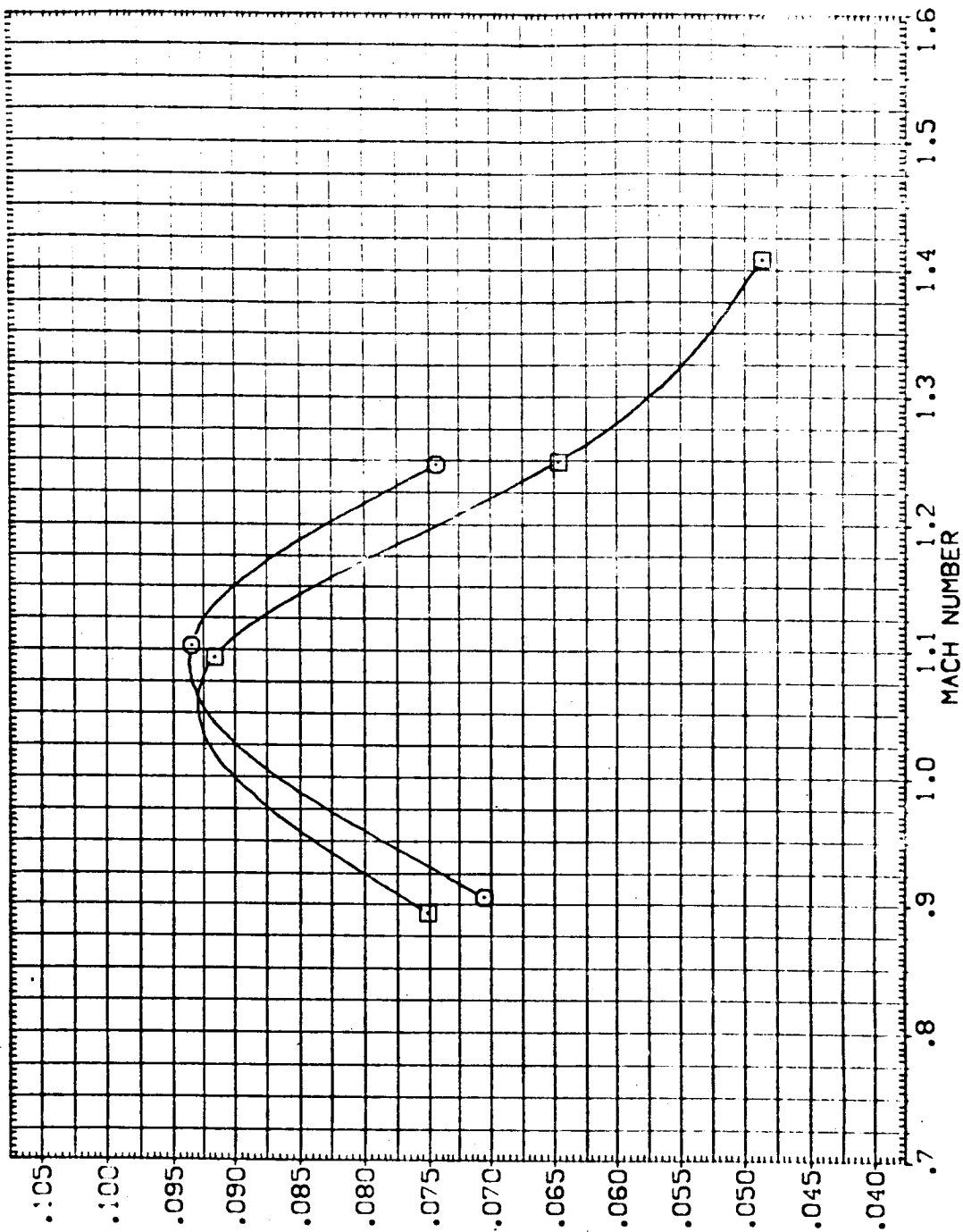
FIG. 85 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-0B=0.0 ALPHA=4.0

(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (4439) ○ ARC11-0141A19 OTS SRB-OFF MPS-OFF
 (4443) ARC11-0141A19 OTS SRB-NOM MPS-OFF

ELV-1B ELV-0B ALPHA GIMBAL
 .000 .000 4.000 1.000
 .000 .000 4.000 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP 400.0000 IN.
 ZMRP 400.0000 IN.
 SCALE .0000



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 85 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-0B=0.0 ALPHA=4.0

(A)BETA = .00



330-654 100-825
330-654 330-625
No.

ELV-1B	ELV-08	ALPHA	GIMBAL
.000	.000	8.000	1.000
.000	.000	8.000	1.000

REFERENCE INFORMATION	
SREF	2690.0000 SQ.FT.
LREF	1290.3000 IN.
BREF	1290.3000 IN.
XMRP	976.0000 IN. XT
YMRP	.0000 IN. YT
ZMRP	400.0000 IN. ZT
SCALE	.0200

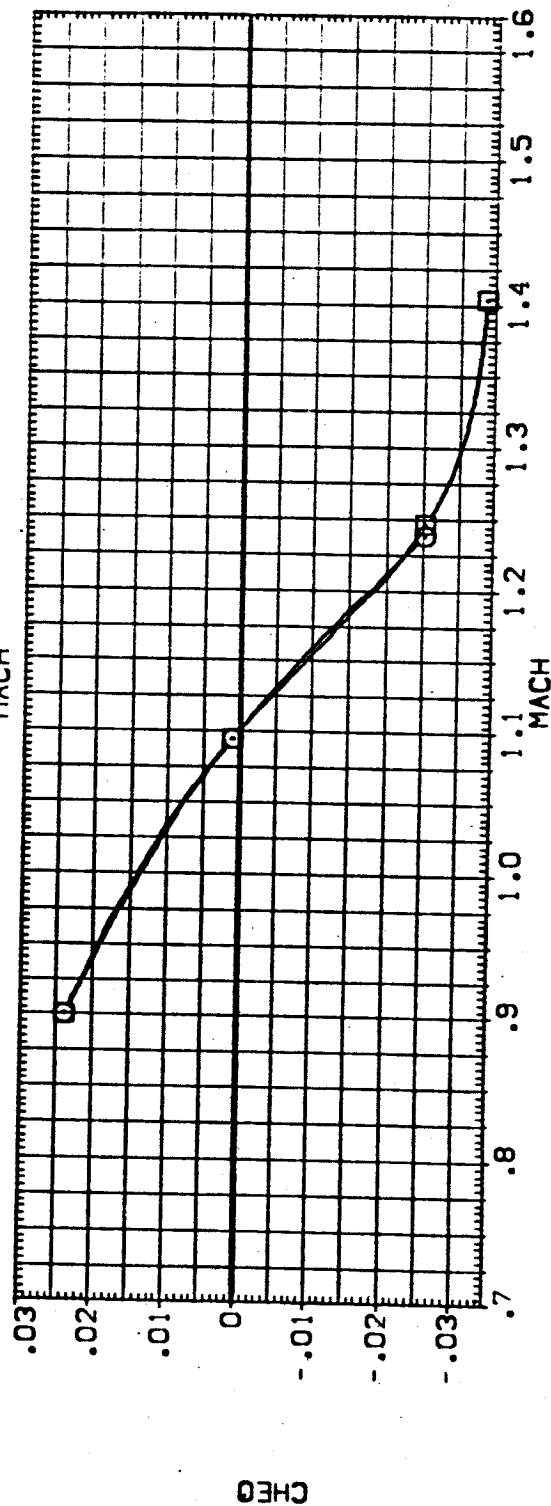
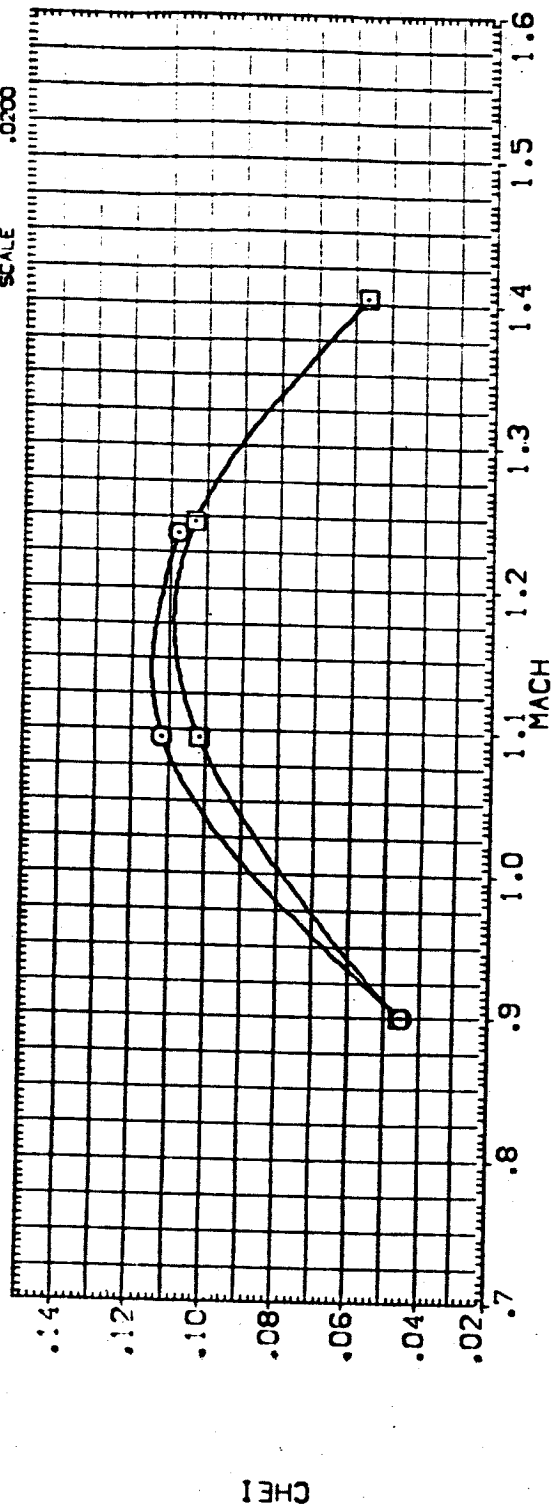


FIG. 86 SUMMARY - EFFECT OF PLUMES - ELV-IB=0.0 ELV-OB=0.0 ALPHA=8.0

CAPBETA = .00

DATA SET SYMBO. CONFIGURATION DESCRIPTION
 [HEUS39] O ARC11-0141A19 OTS SRS-OFF MPS-OFF
 [HEUS13] ARC11-0141A19 OTS SRS-NOM MPS-OFF

ELV-1B ELV-0B ALPHA G1-MBAL
 .000 .000 8.000 1.000
 .000 .000 8.000 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP .0000 IN.
 ZMRP 400.0000 IN.
 SCALE .0200

ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

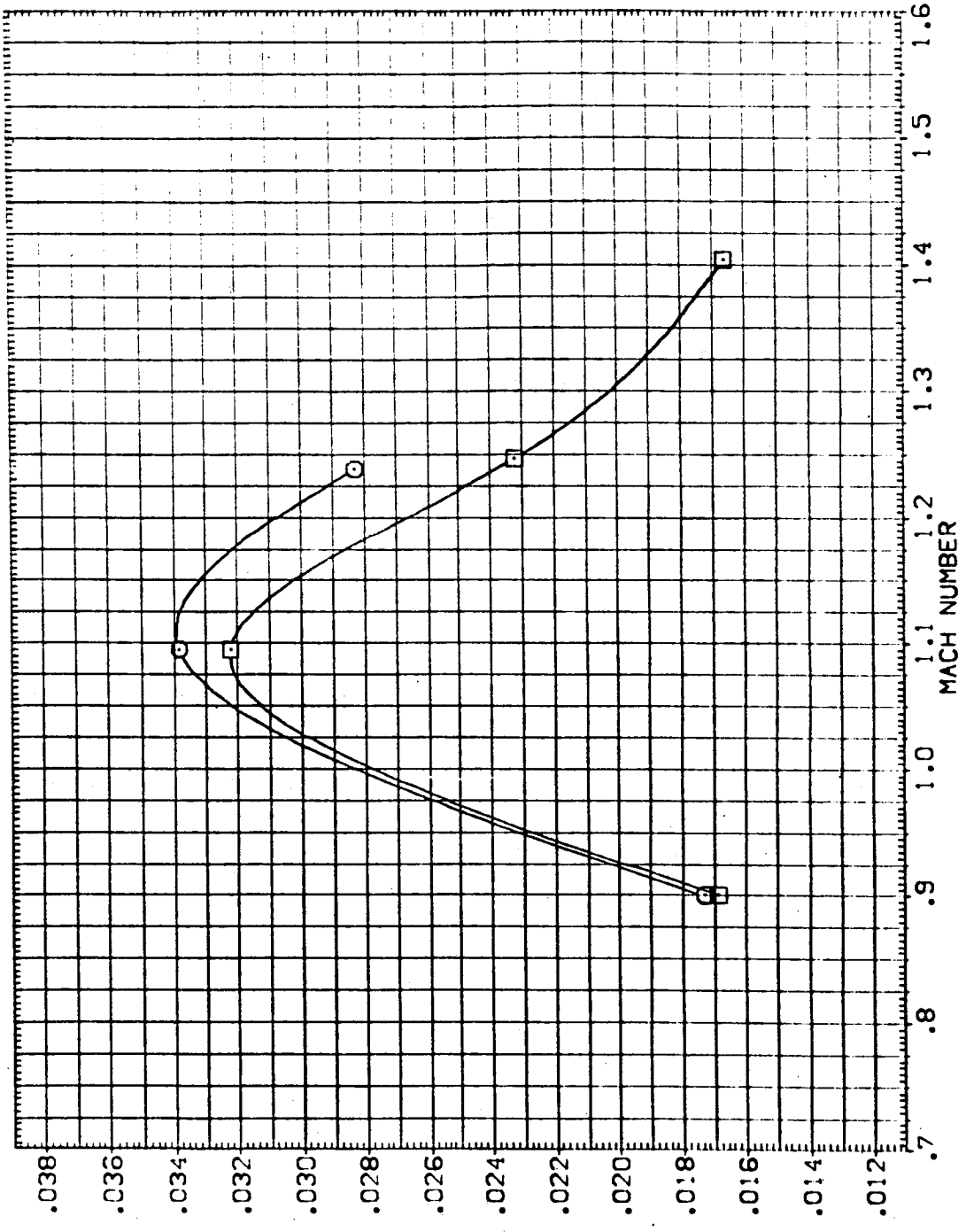


FIG. 86 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-0B=0.0 ALPHA=8.0

(A)BETA = .00



DATA SET SYMBOL: [1-539] [1-543]
 CONFIGURATION DESCRIPTION: ARC11-0141A19 01S
 SR9-OFF MPS-OFF
 SR9-NOM MPS-OFF
 ELV-1B .000
 ELV-0B .000
 ALPHA 8.000
 GIMBAL 1.000
 REFERENCE INFORMATION:
 SREF 2690.0000 SO.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP .0000 IN.
 ZMRP 400.0000 IN.
 SCALE 0.500

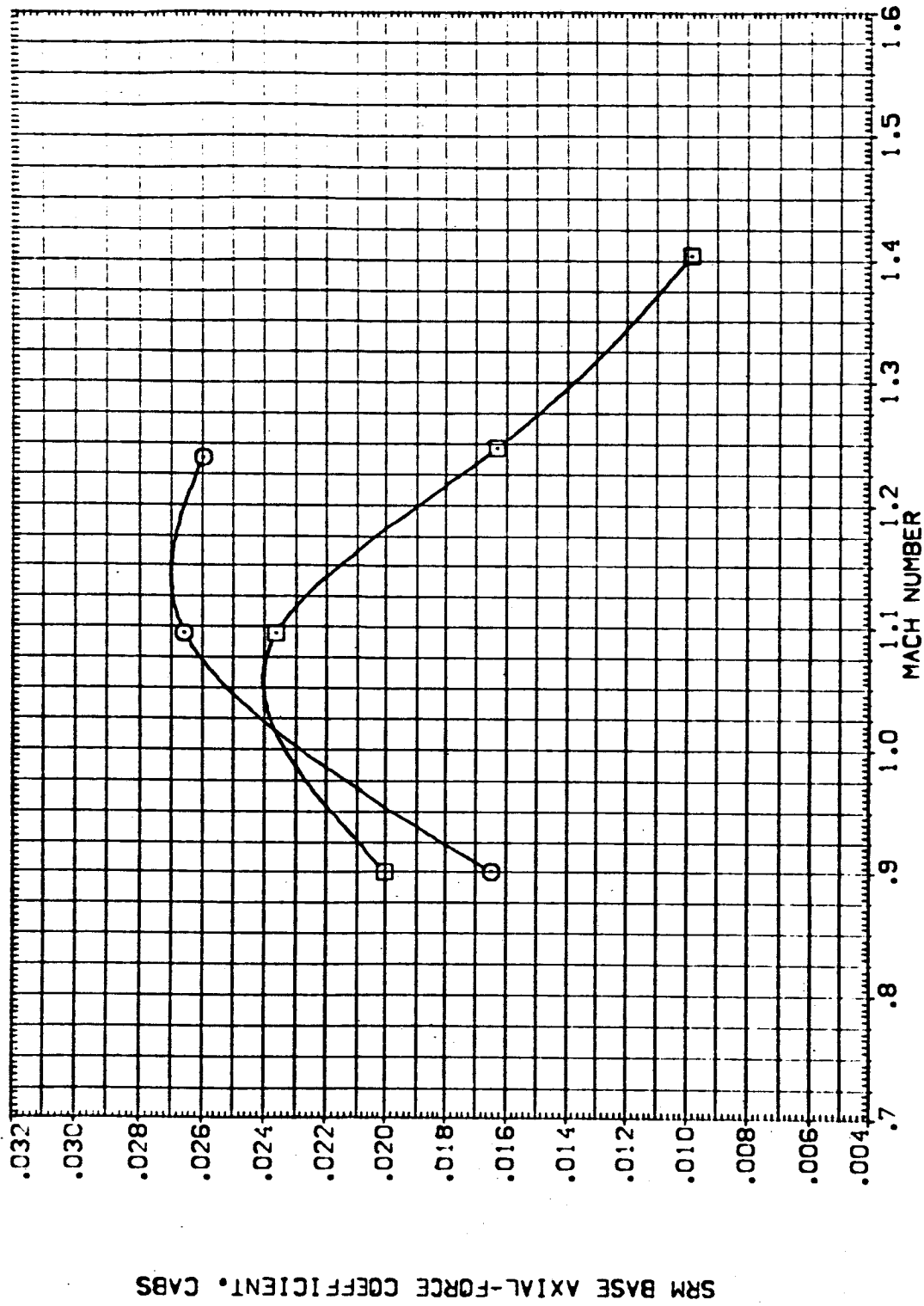


FIG. 86 SUMMARY - EFFECT OF PLUMES - ELV-1B=0.0 ELV-0B=0.0 ALPHA=8.0

(A)BETA = .00

DATA SET SYMBOL: CONF IGURATION DESCRIPTION: REFERENCE INFORMATION: 50. FT.

{HLS38} O ARC11-0141A19 OTS SRS-OFF MPS-OFF SREF 2690.0000 IN.

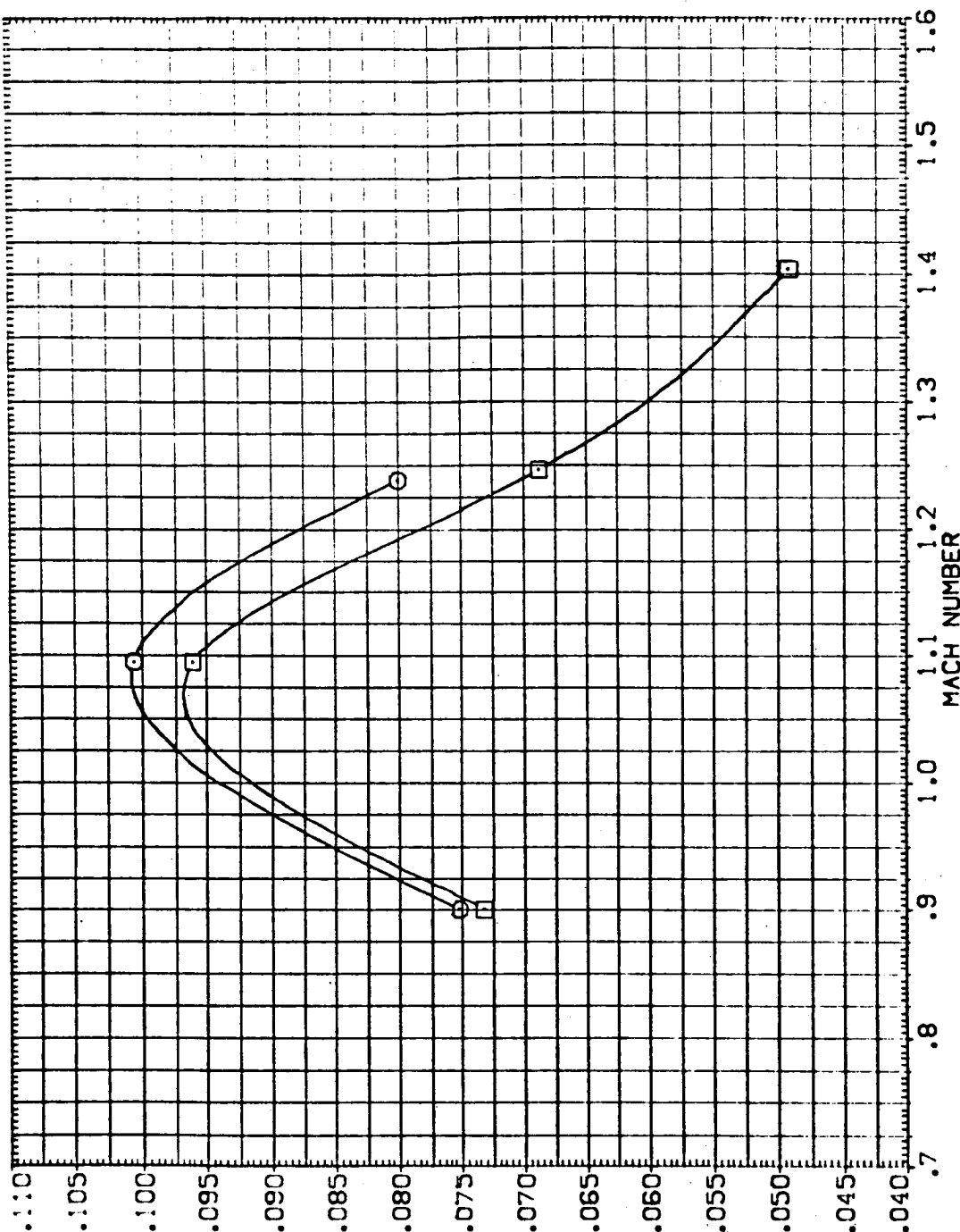
{HLS38} O ARC11-0141A19 OTS SRS-NOM MPS-OFF LREF 1290.3000 IN.

XMRP 976.0000 IN. XT

YMRP 400.0000 IN. YT

ZMRP 400.0000 IN. ZT

SCALE .0700



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 86 SUMMARY - EFFECT OF PLUMES - ELV-IB=0.0 ELV-OB=0.0 ALPHA=8.0

(A)BETA = .00



DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
ARC11-0141A19	OTS	SRB-OFF	MPS-OFF	SREF	2690.0000
ARC11-0141A19	OTS	SRB-NON	MPS-OFF	LREF	1290.3000
				BREF	1290.3000
				YMRP	976.0000
				ZMRP	400.0000
				SCALE	.0200

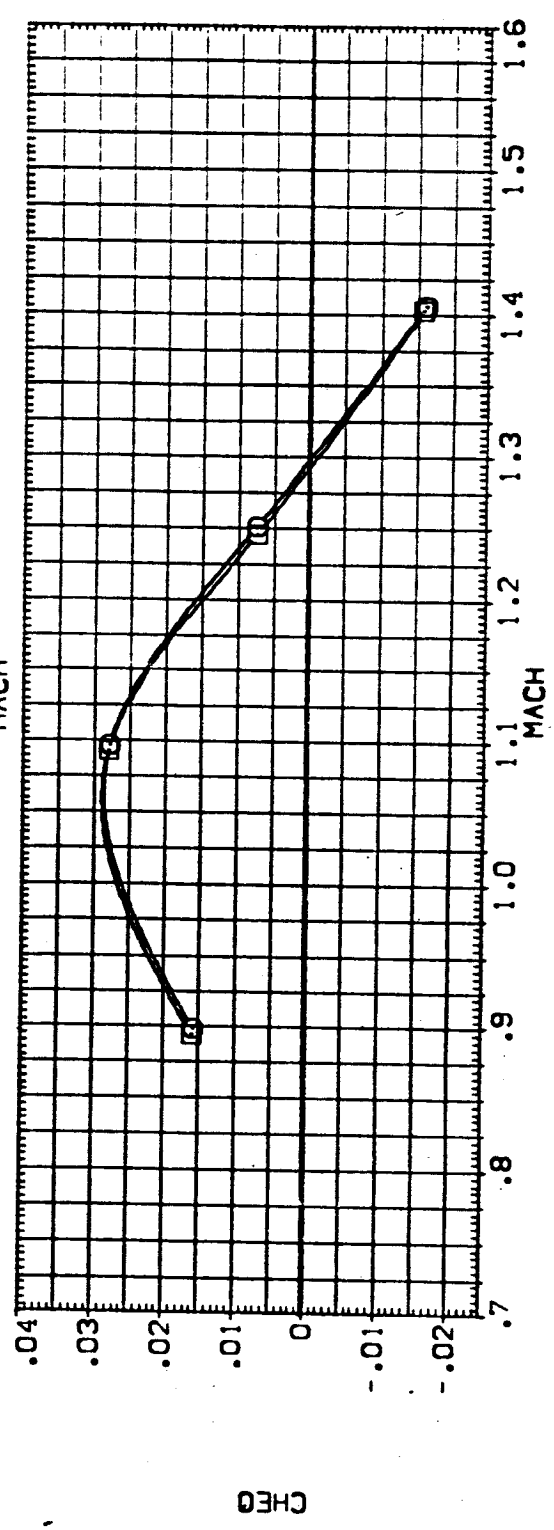
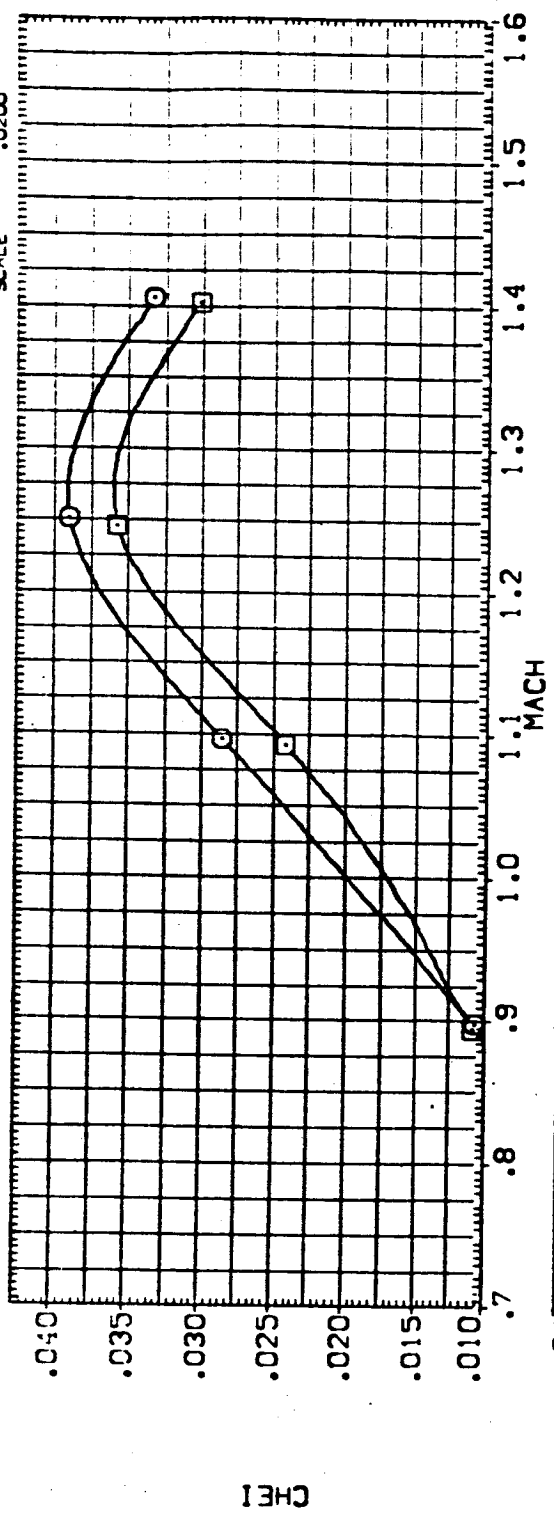


FIG. 87 SUMMARY - EFFECT OF PLUMES - ELV-IB=8.0 ELV-OB=4.0 ALPHA=-4.0
 (A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 [REU:49] O ARC11-0141A19 OTS
 [REU:53] O ARC11-0141A19 OTS

SRS-OFF MPS-OFF
 SRS-NOM MPS-OFF

ELV-IB 8.000 4.000 4.000
 ELV-OB 8.000 4.000 4.000
 ALPHA -4.000 -4.000 -4.000
 GIMBAL 1.000 1.000 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

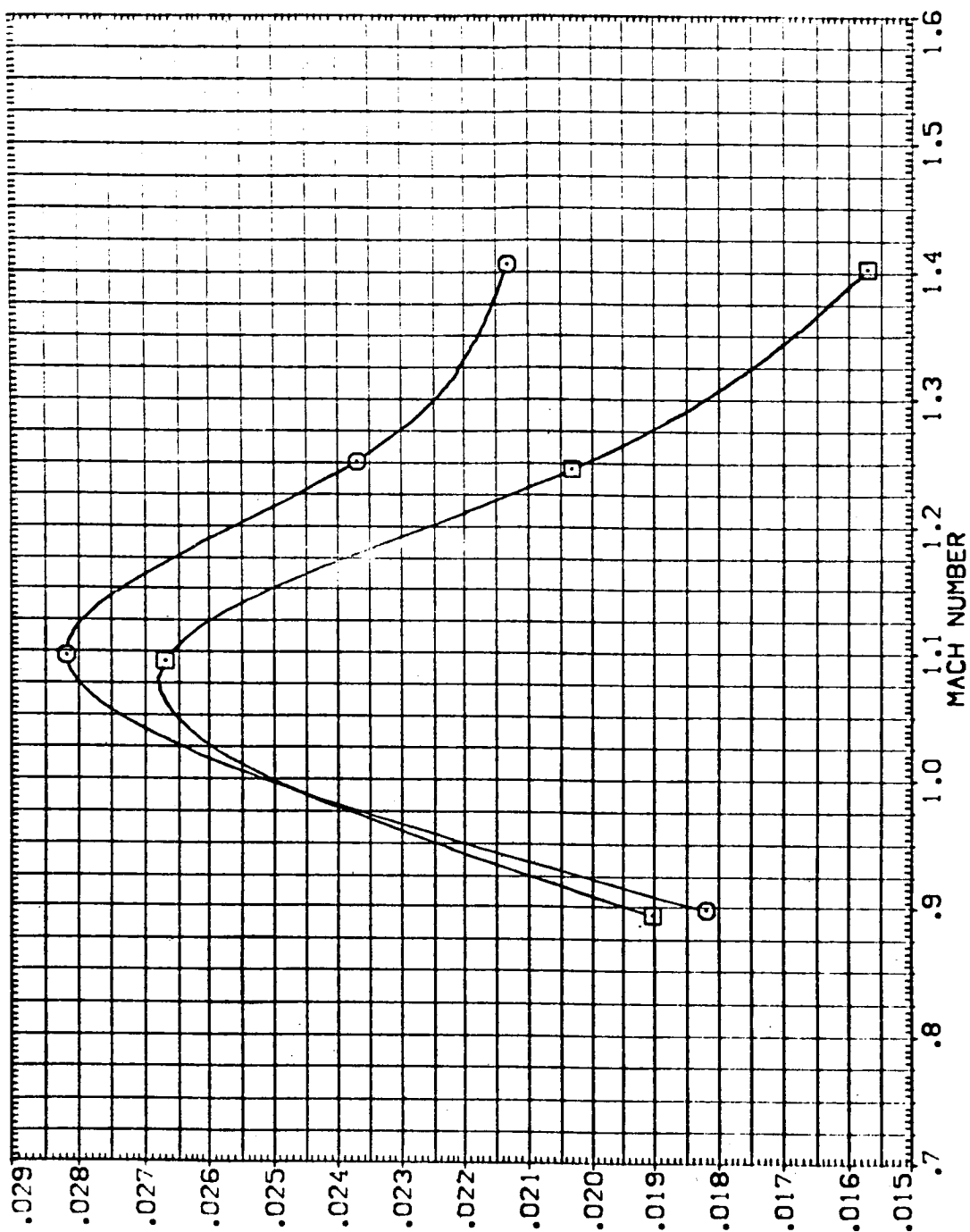


FIG. 87 SUMMARY - EFFECT OF PLUMES - ELV-IB=8.0 ELV-OB=4.0 ALPHA=-4.0

CABETA = .00



DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
[HEU]49)	○	ARC11-0141A19 OTS	SR3-OFF MPS-OFF	SREF	2690.0000 SQ.FT.
[HEU]53)		ARC11-0141A19 OTS	SR3-NOM MPS-OFF	LREF	1290.3000 IN.
				BREF	1290.3000 IN.
				XMRP	576.0000 IN.
				YMRP	.0000 IN.
				ZMRP	.0000 IN.
				SCALE	.0200

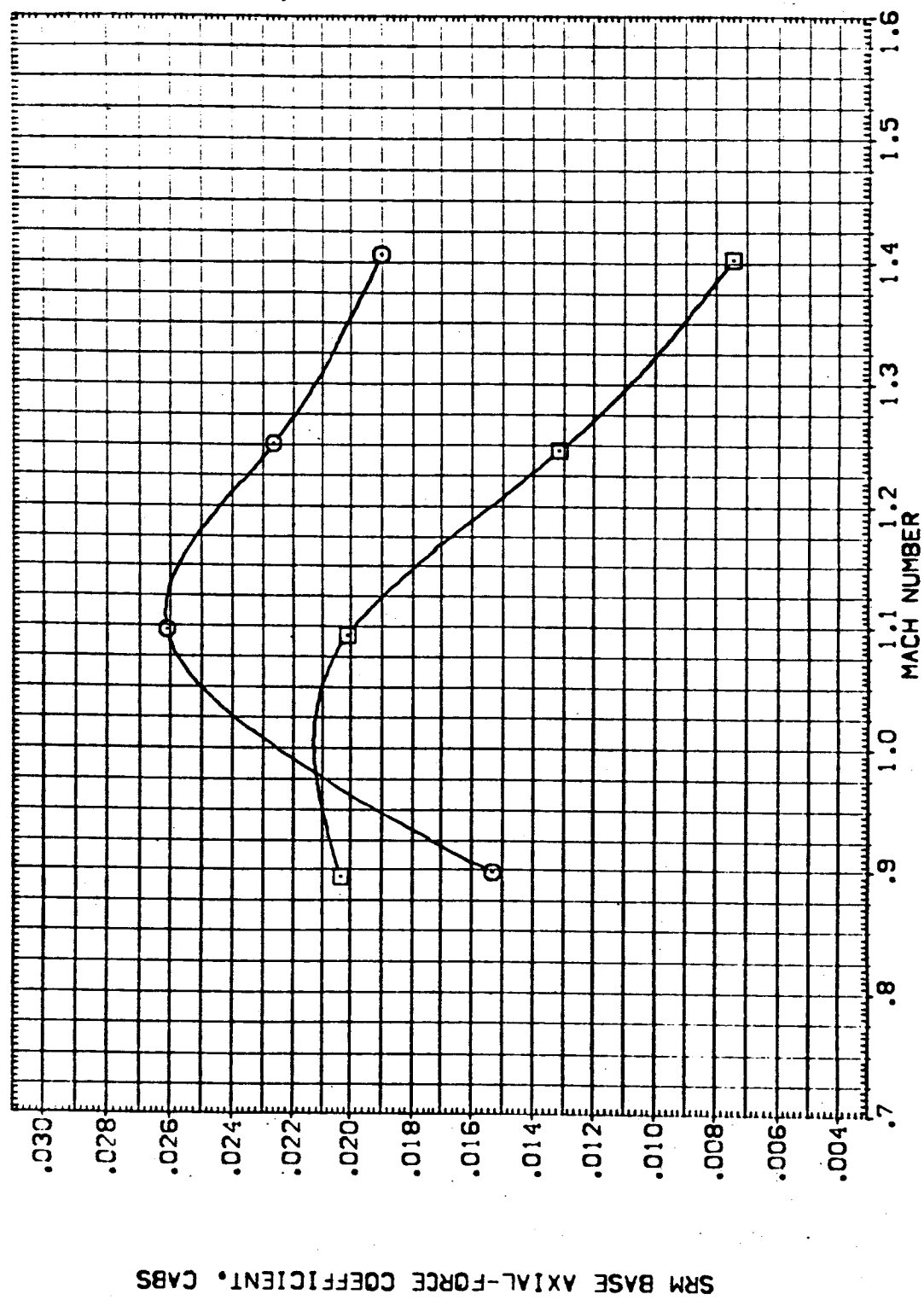


FIG. 87 SUMMARY - EFFECT OF PLUMES - ELV-IB=8.0 ELV-OB=4.0 ALPHA=-4.0

CABETA = .00

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		REFERENCE INFORMATION	
[H0249]	○	ARC11-0141A19 OTS	SRB-OFF MPS-OFF	SREF	2690.0000
[H0253]	○	ARC11-0141A19 OTS	SRB-NOM MPS-OFF	LREF	1290.3000
				BREF	1290.3000
				XMRP	576.0000
				YMRP	.0000
				ZMRP	400.0000
				SCALE	.0200

ELV-1B	8.000	ELV-0B	4.000	ALPHA	.000	GIMBAL	1.000
	8.000		4.000		.000		1.000

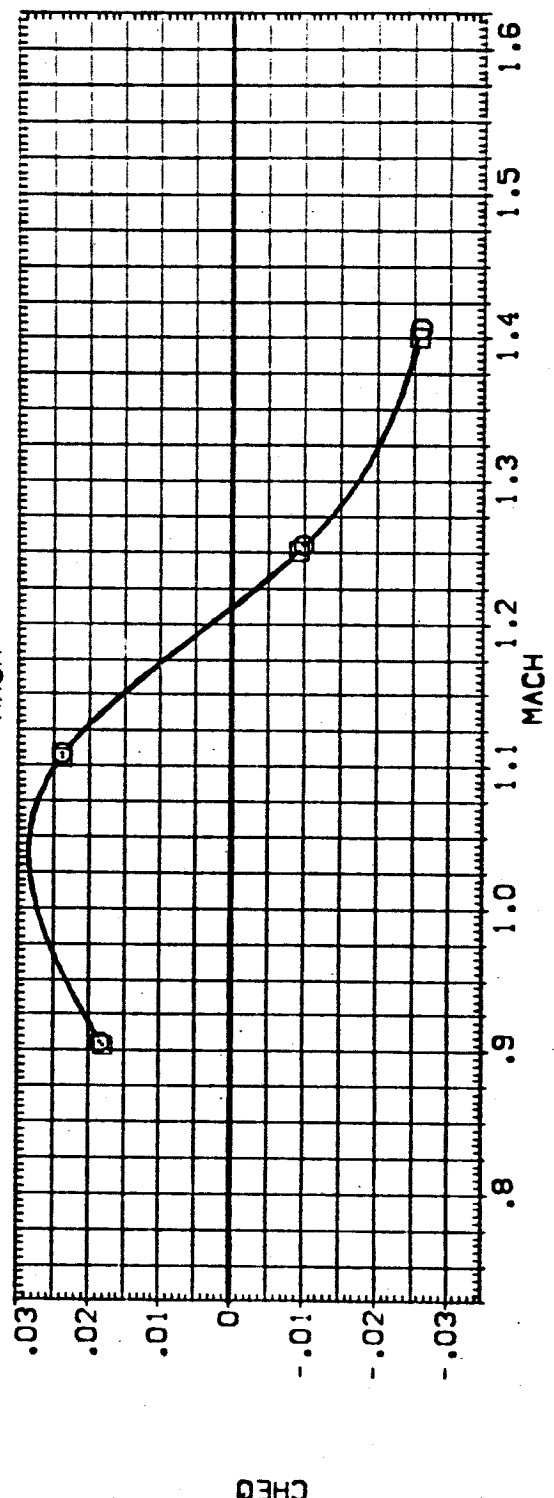
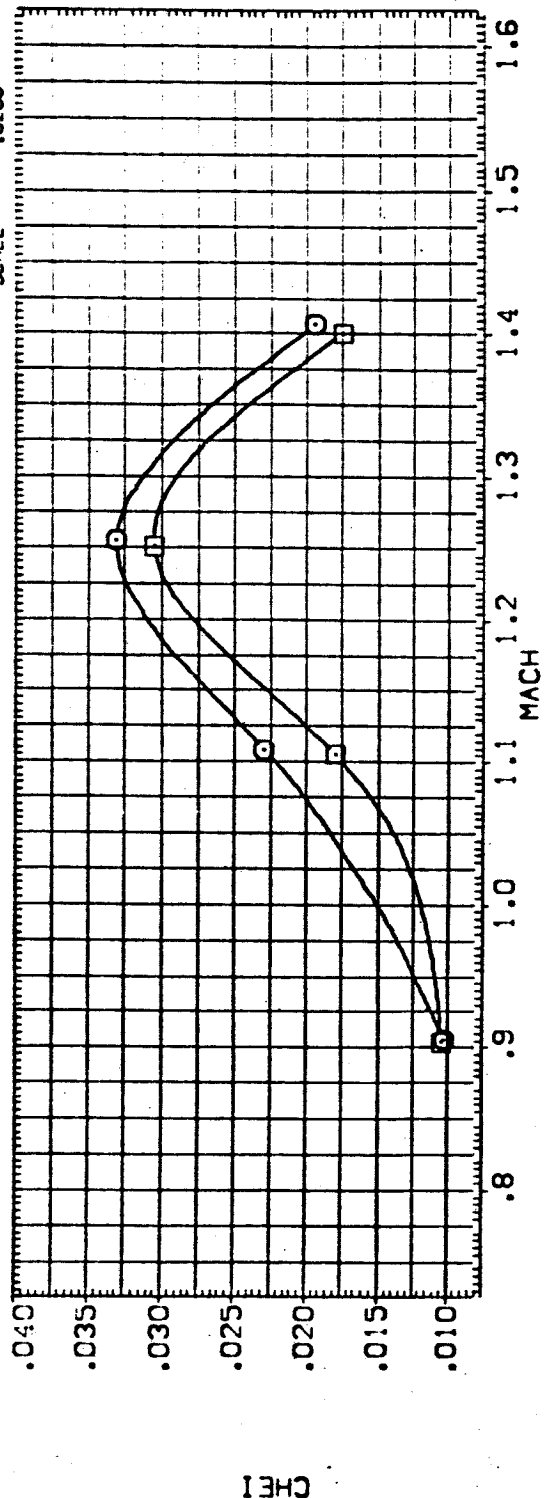


FIG. 88 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0

(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (H0249) O ARC11-0141A19 OTS
 (H0253) ARC11-0141A19 OTS

ELV-IB ELV-OB ALPHA GIMBAL
 8.000 4.000 .000 1.000
 8.000 4.000 1.000

SRS-OFF MPS-OFF
 SRS-NOM MPS-OFF

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0300

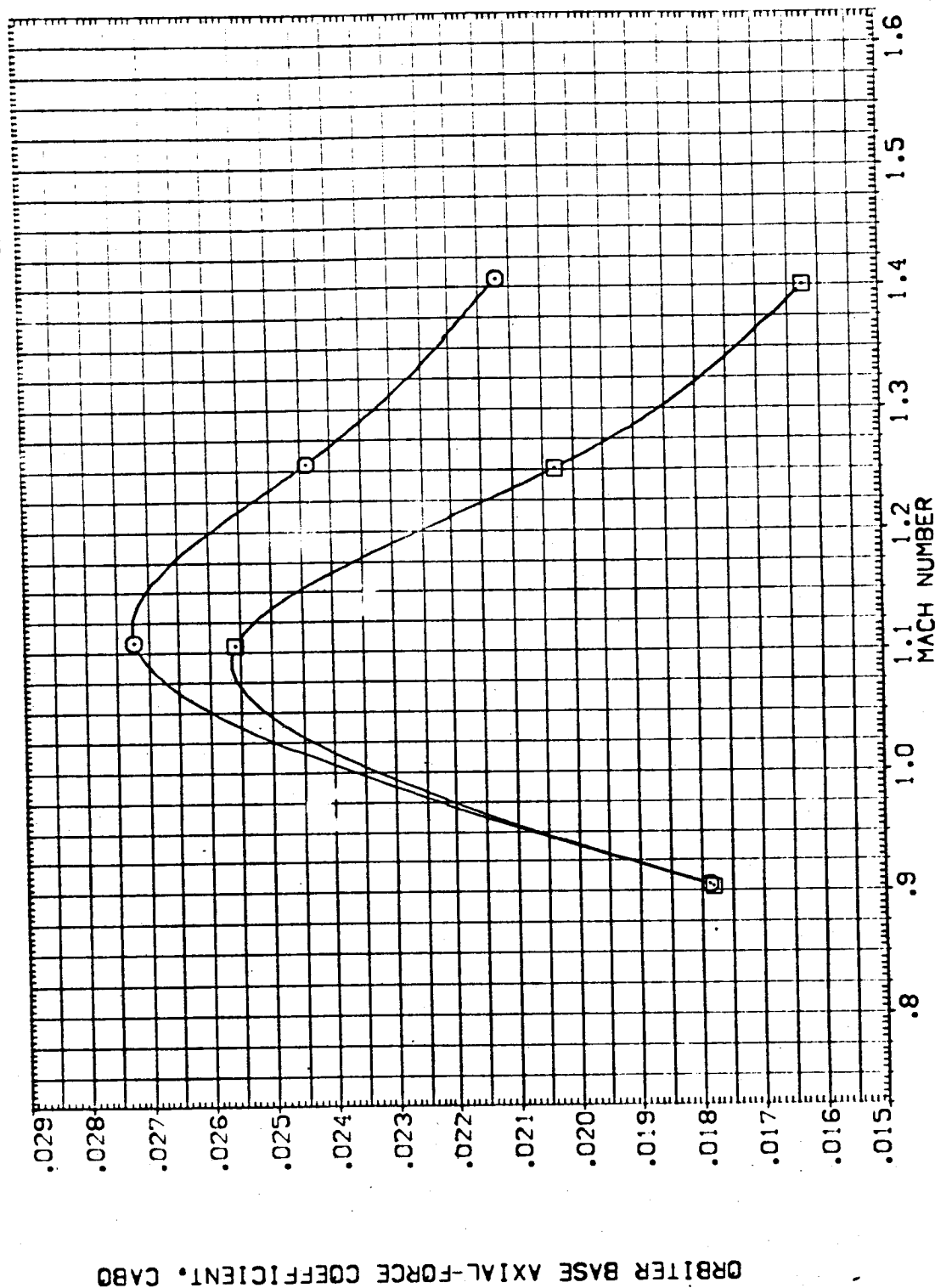


FIG. 88 SUMMARY - EFFECT OF PLUMES - ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0

CABETA = .00

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-IB	ELV-OB	ALPHA	GIMBAL	REFERENCE INFORMATION
(H-253)	ARC11-01A1A19 OTS	8.000	4.000	.000	1.000	SREF 2690.0000 SO.FT.
(H-253)	ARC11-01A1A19 OTS	8.000	4.000	.000	1.000	LREF 1290.3000 IN.
						BREF 1290.3000 IN.
						YMRP 976.0000 IN. XT
						ZMRP .0000 IN. YT
						SCALE 400.0000 IN. ZT

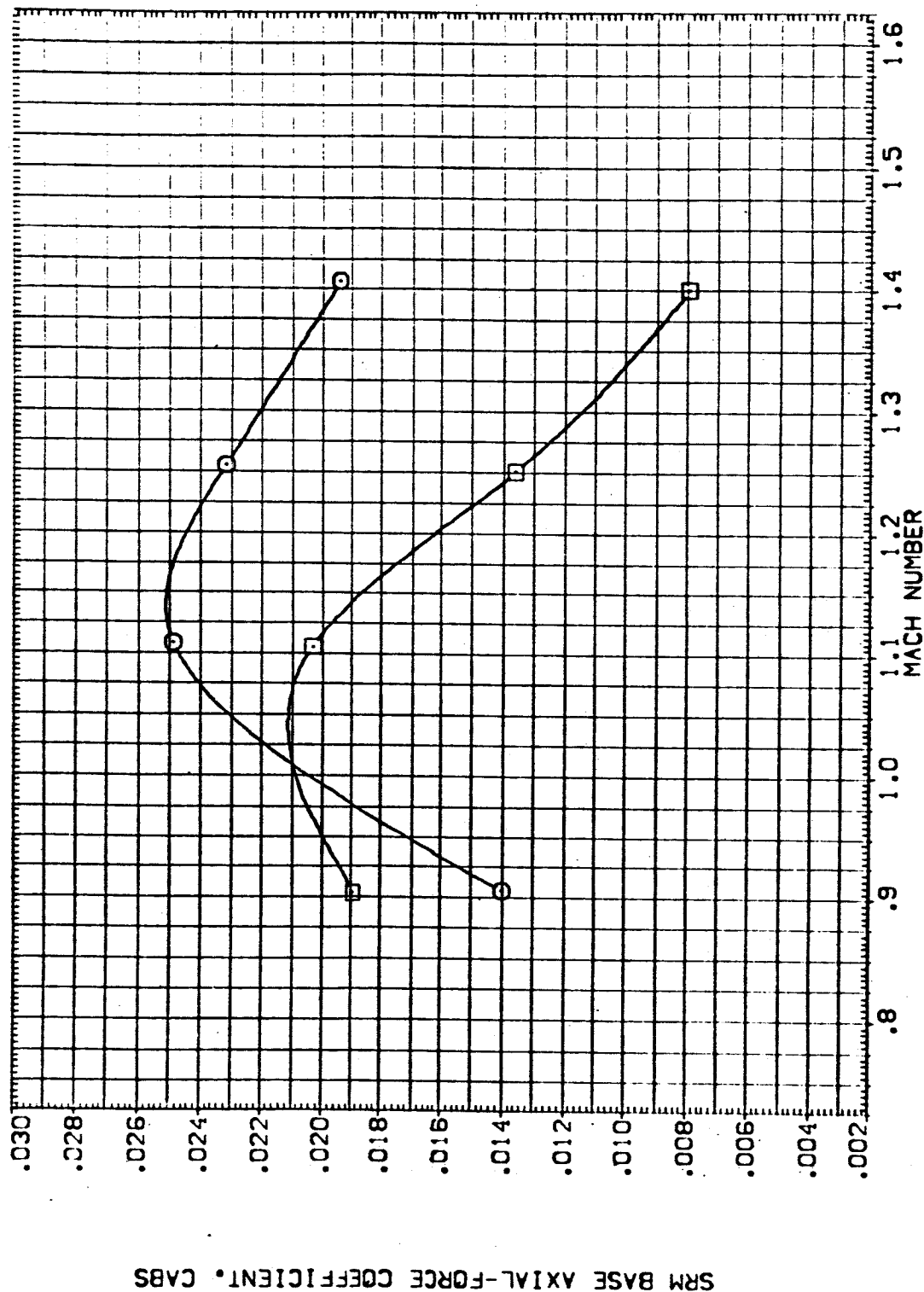


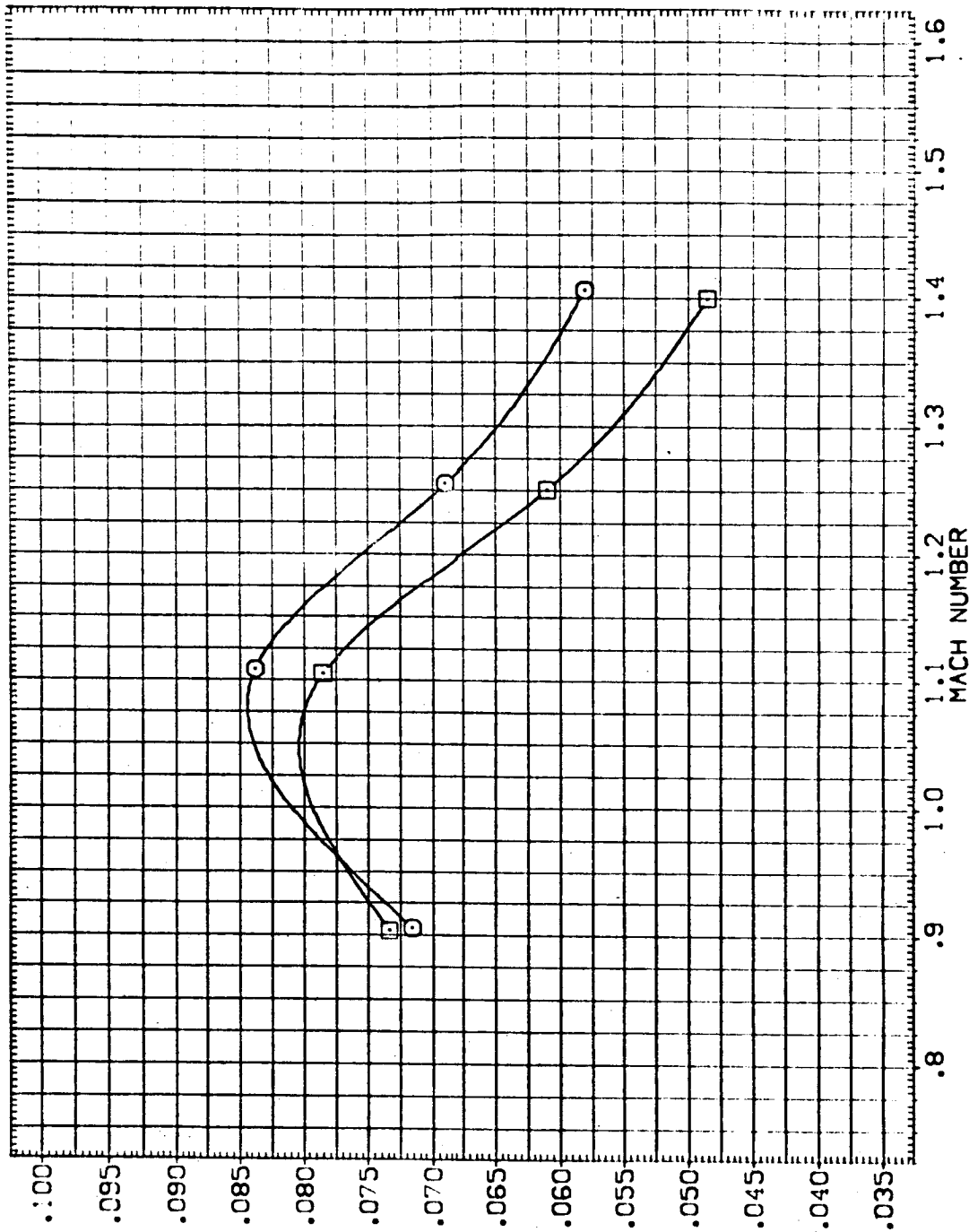
FIG. 88 SUMMARY - EFFECT OF PLUMES - ELV-IB=8.0 ELV-OB=4.0 ALPHA=0.0

(A)BETA = .00

DATA SET SYMBOL CONFIGURATION DESCRIPTION
 (-E0249) O ARC11-0141A19 OTS
 (-E0253) SRS-0FF MPS-0FF
 SRS-NOM MPS-0FF

ELV-1B ELV-0B ALPHA GIMBAL

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN.
 YMRP 400.0000 IN.
 ZMRP 400.0000 IN.
 SCALE .0200



EXTERNAL TANK BASE AXIAL-FORCE COEFFICIENT, CABT

FIG. 88 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-0B=4.0 ALPHA=0.0

CABETA = .00



DATA SET SYMBOL: 01353
 CONFIGURATION DESCRIPTION: ARC-11-0141A19 OTS
 SRB-OFF MPS-OFF
 SRB-NOM MPS-OFF

ELV-1B 8.000
 ELV-0B 4.000
 ALPHA 4.000
 DIMBAL 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XMRP 976.0000 IN. XT
 YMRP .0000 IN. YT
 ZMRP 400.0000 IN. ZT
 SCALE .0200

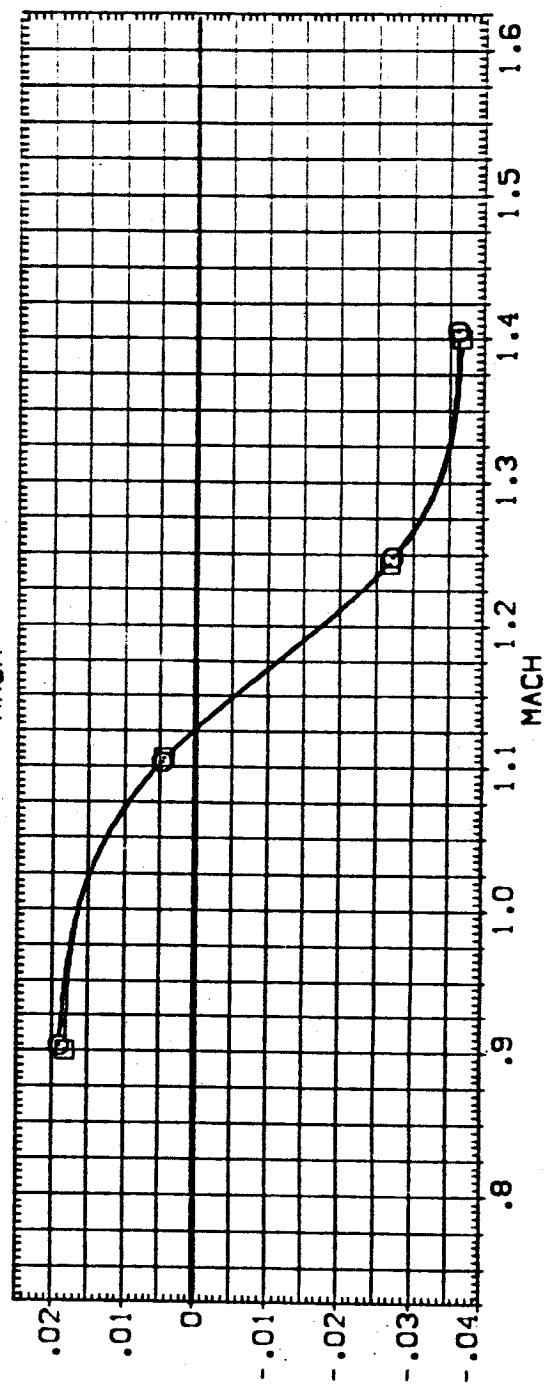
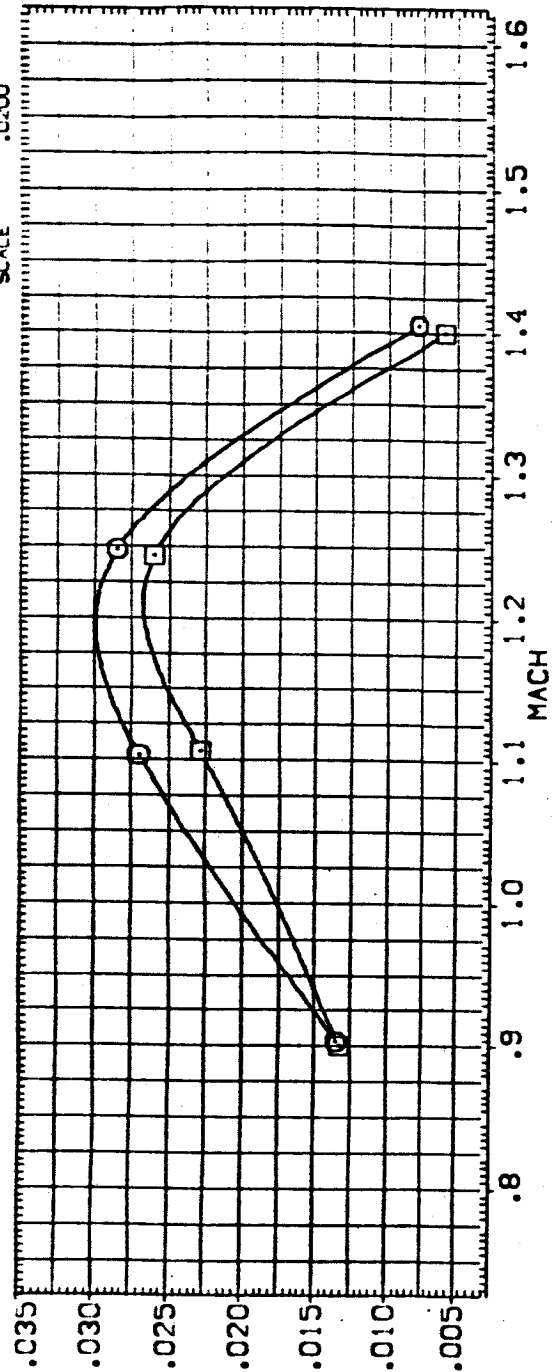


FIG. 89 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-0B=4.0 ALPHA=4.0

CABETA = .00

DATA SET SYMB. CONFIGURATION DESCRIPTION
 {H349} O ARC11-0141A19 OTS
 {H353} ARC11-0141A19 OTS

S98-OFF MPS-OFF
 S98-NOM MPS-OFF

ELV-19 ELV-08 ALPHA GIMBAL
 8.000 4.000 4.000 1.000
 8.000 4.000 4.000 1.000

REFERENCE INFORMATION
 SREF 2690.0000 SQ.FT.
 LREF 1290.3000 IN.
 BREF 1290.3000 IN.
 XREF 976.0000 IN.
 YMRD .0000 IN.
 ZMRD 400.0000 IN.
 SCALE .0700

ORBITER BASE AXIAL-FORCE COEFFICIENT, CABO

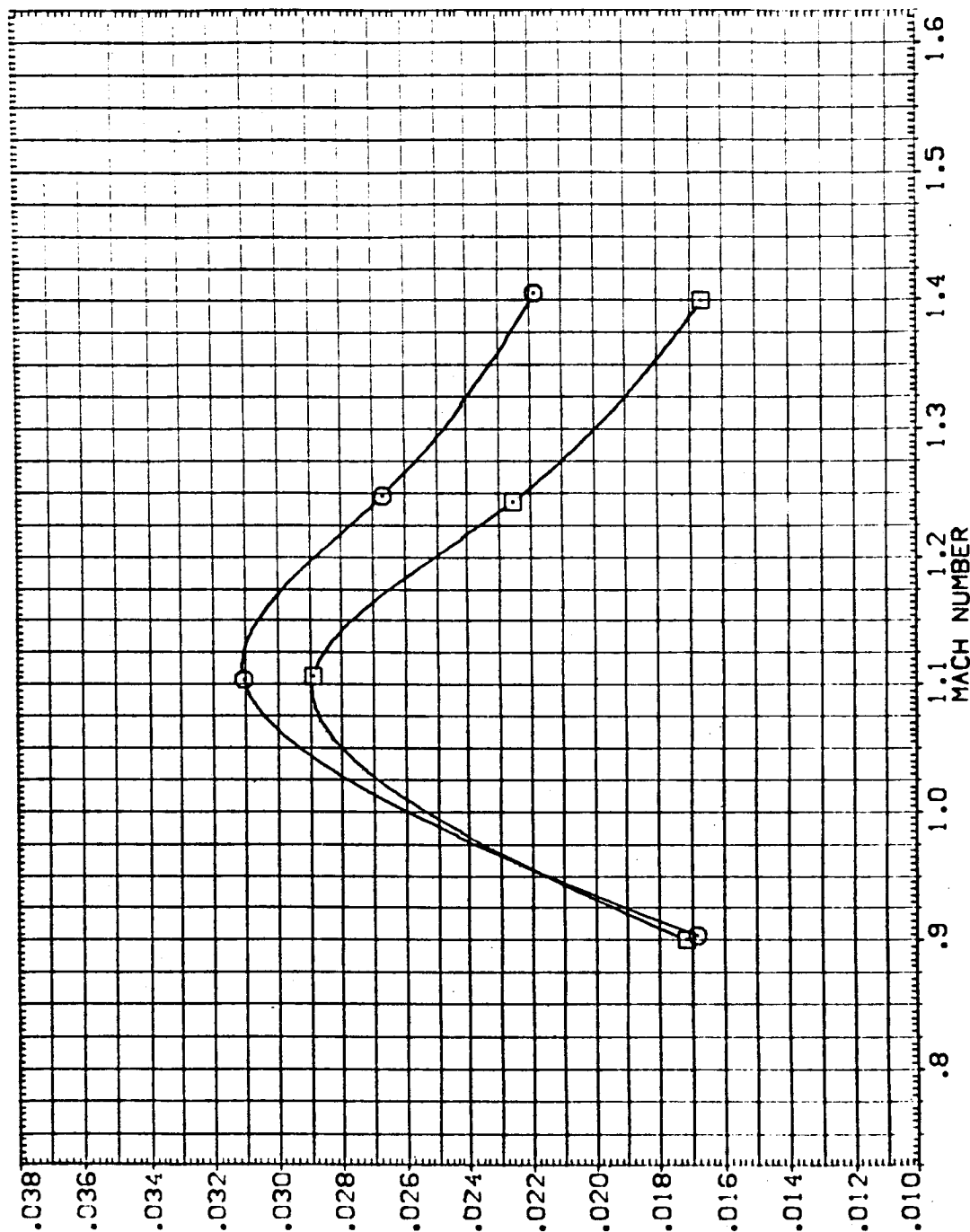


FIG. 89 SUMMARY - EFFECT OF PLUMES - ELV-1B=8.0 ELV-0B=4.0 ALPHA=4.0

(A)BETA = .00



DATA SET SYMBOL CONFIGURATION DESCRIPTION ELV-18 ELV-08 ALPHA GIMBAL REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ELV-18	ELV-08	ALPHA	GIMBAL	REFERENCE INFORMATION
[HEU349]	ARC11-0141A19 OTS	8.000	4.000	4.000	1.000	SREF 2690.0000 SQ.FT.
[HEU353]	ARC11-0141A19 OTS	8.000	4.000	4.000	1.000	LREF 1290.3000 IN.
						BREF 1290.3000 IN.
						XMRP 976.0000 IN. XT
						YMRP .0000 IN. YT
						ZMRP .0000 IN. ZT
						SCALE .0200

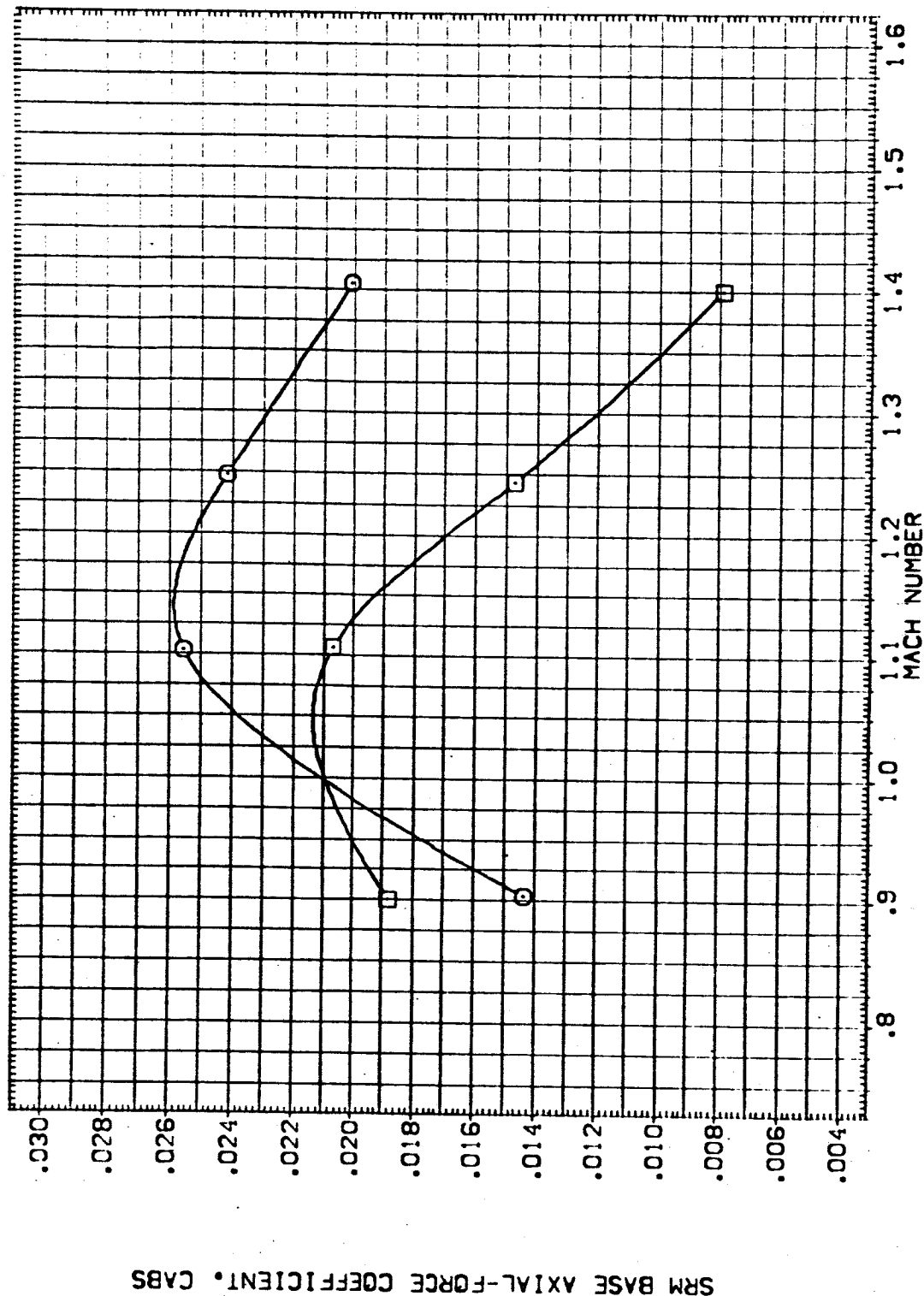


FIG. 89 SUMMARY - EFFECT OF PLUMES - ELV-18=8.0 ELV-08=4.0 ALPHA=4.0

(A)BETA = .00

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB01)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18 RUDDER GIMBAL	8.000 .000 1.000	ELV-08 MACH	4.000 .900
○	180.000	.000	-4.000				
□	195.000						
◇	210.000						
△	225.000						
▽	240.000						

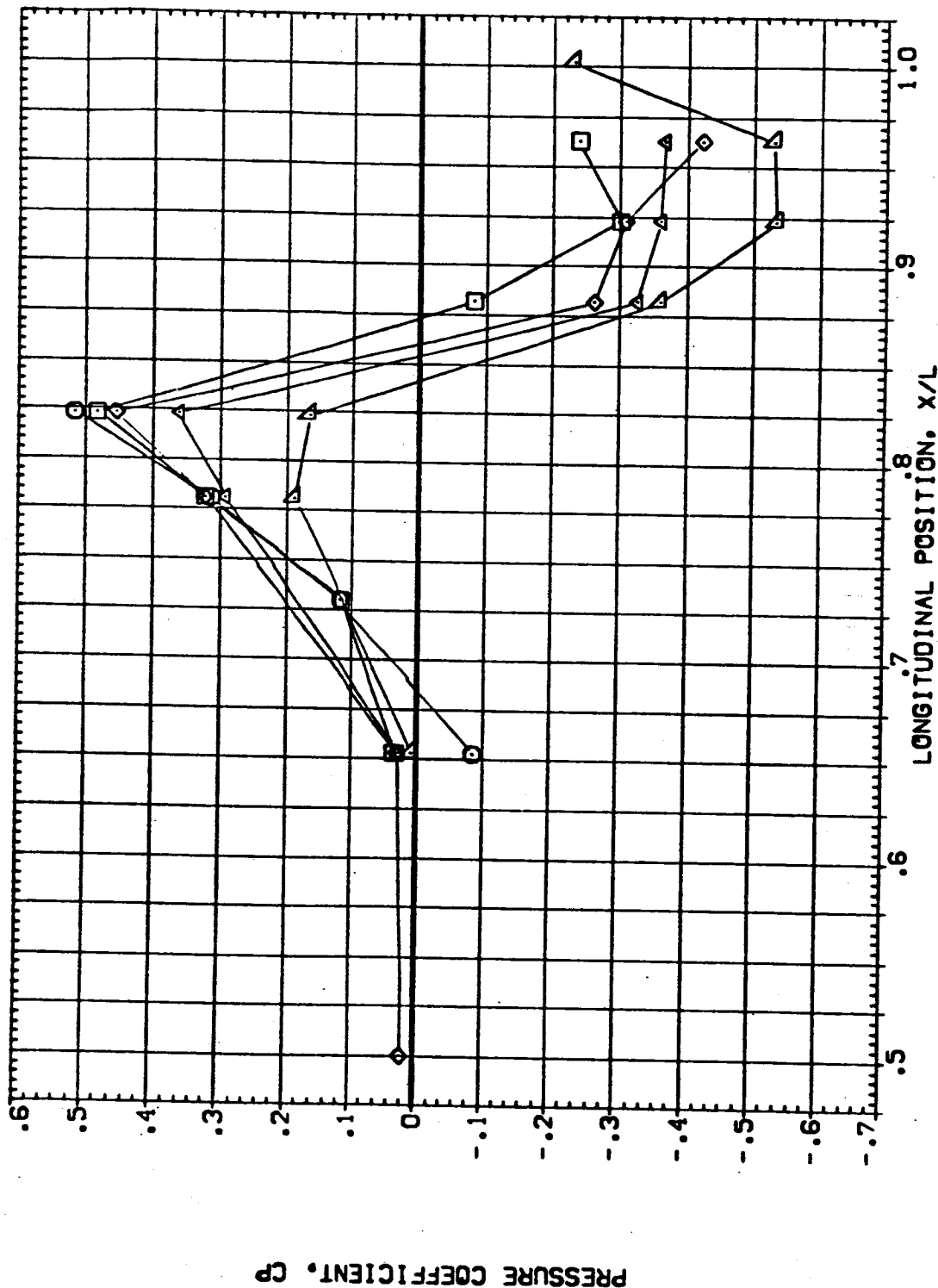


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARCUS ORBITALITY OTS+STRUT SRB-OFF MPS-OFF UNIS BODY (BEUB01)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	255,000	.000	-4.000	RUDER	.000	1.000	4.000
□	270,000			GIMBAL	1.000		.900
◇	290,000						
△	320,000						
▽	360,000						

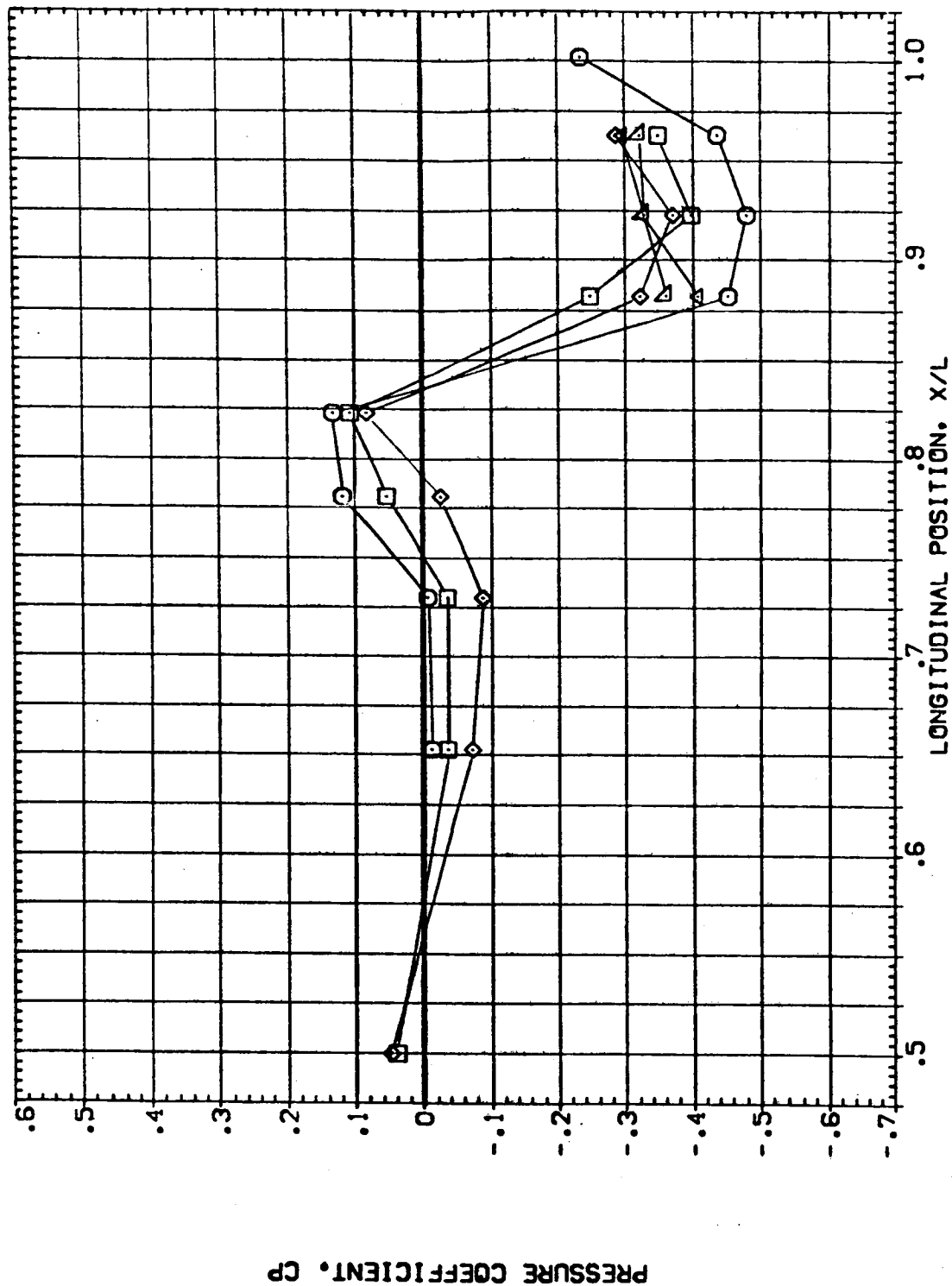


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY(8EUB01)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	180.000	.000	.000	RUDDER	.000	1.000	4.000
□	195.000			GIMBAL			.900
◇	210.000						
△	225.000						
▽	240.000						

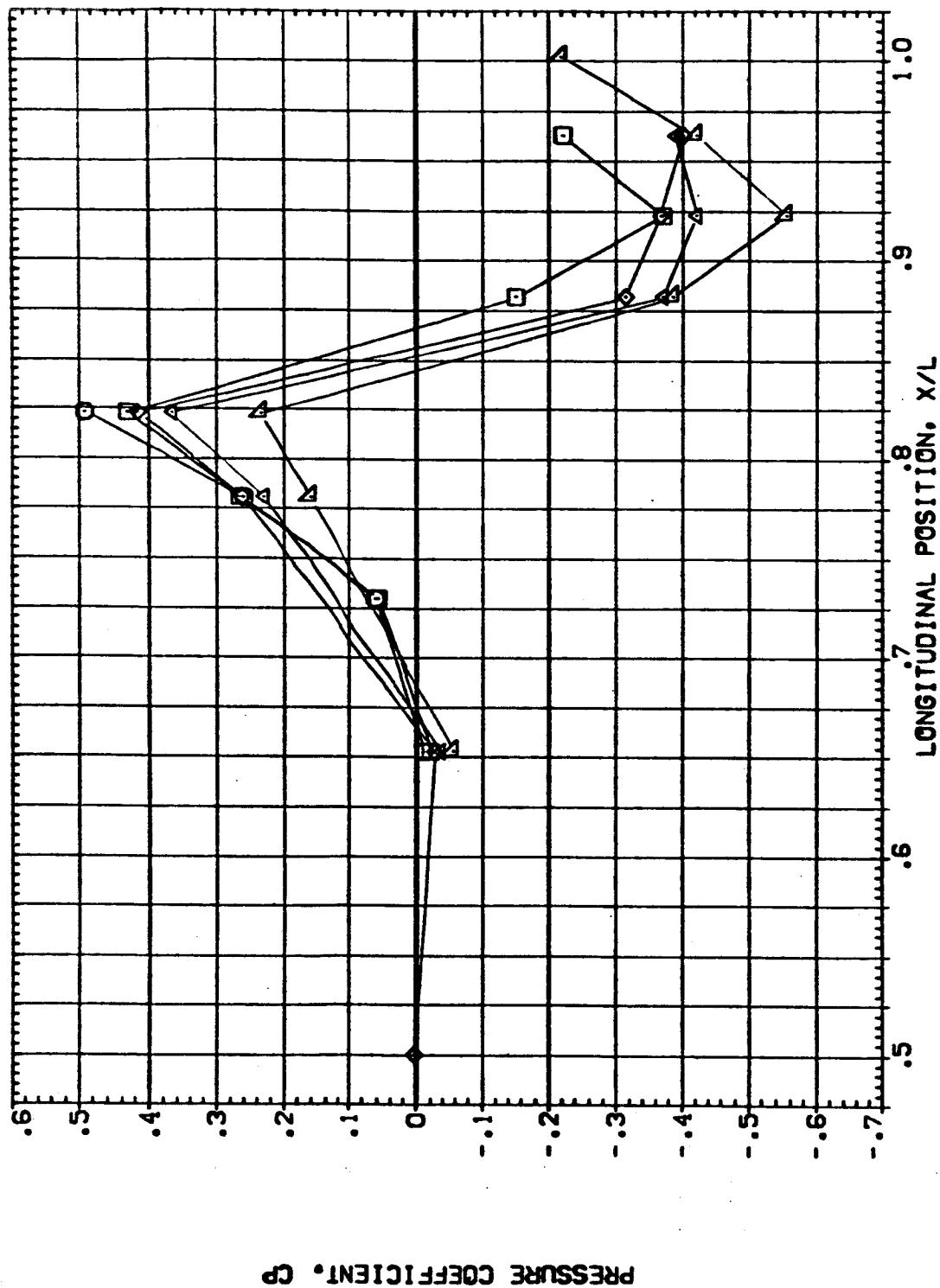


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBO. PH1 BETA ALPHA
 255.000
 270.000
 290.000
 320.000
 360.000

ELV-18 8.000 ELV-03 1.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

PARAMETRIC VALUES

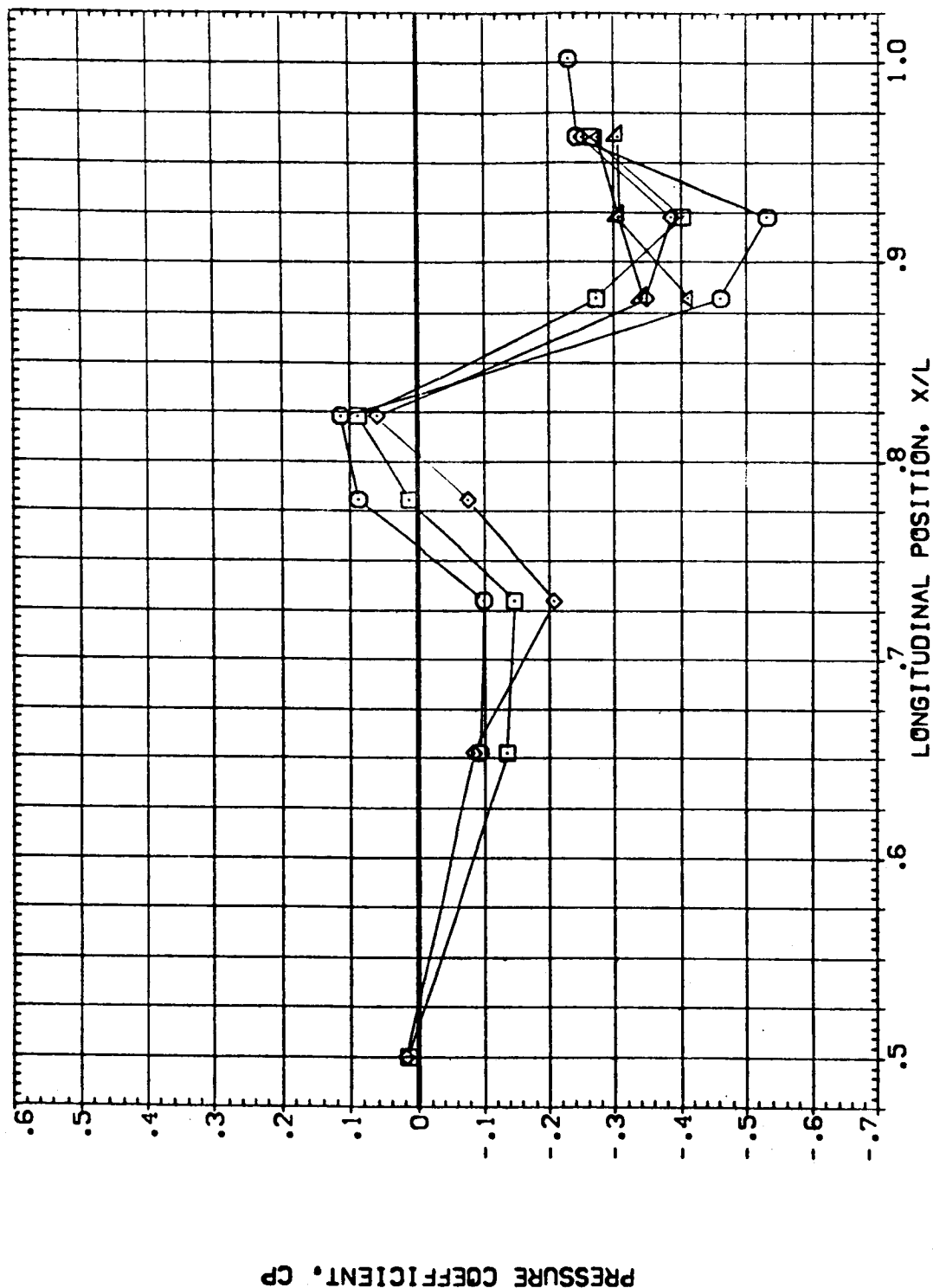


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB01)

SYMBOL

PHI
180,000
195,000
210,000
225,000
240,000

BETA .000 ALPHA 1.000

PARAMETRIC VALUES

ELV-18 6.000 ELV-08 4.000
RUDDER .000 MACH .900
GIMBAL 1.000

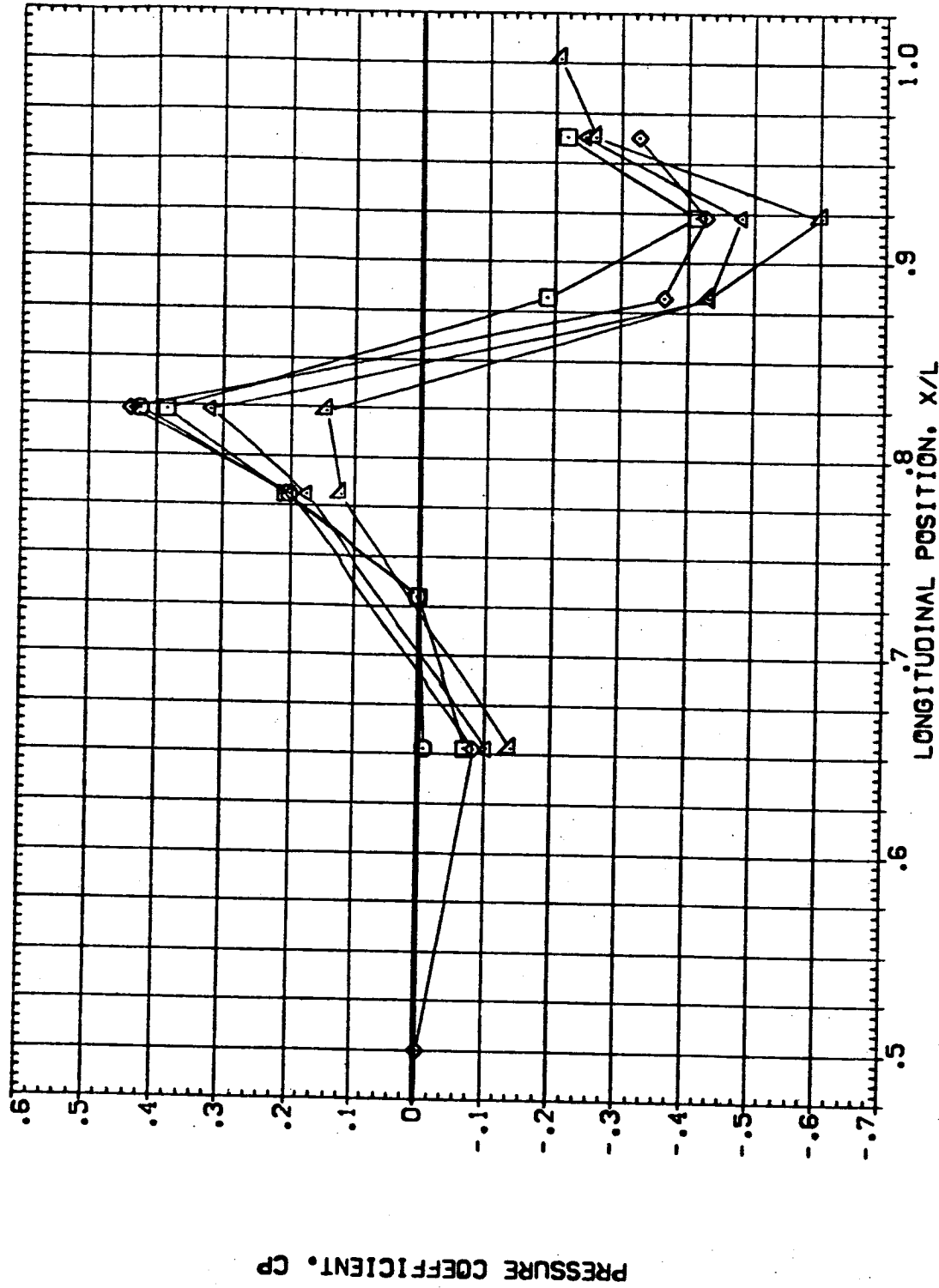


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OIS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB01)

SYMBOL	PHI	BETA	ALPHA	ELV-18	ELV-08	PARAMETRIC VALUES
○	255.000	.000	1.000	RUDER	.000	4.000
□	270.000			GIMBAL	1.000	.900
◇	290.000					
△	320.000					
▽	360.000					

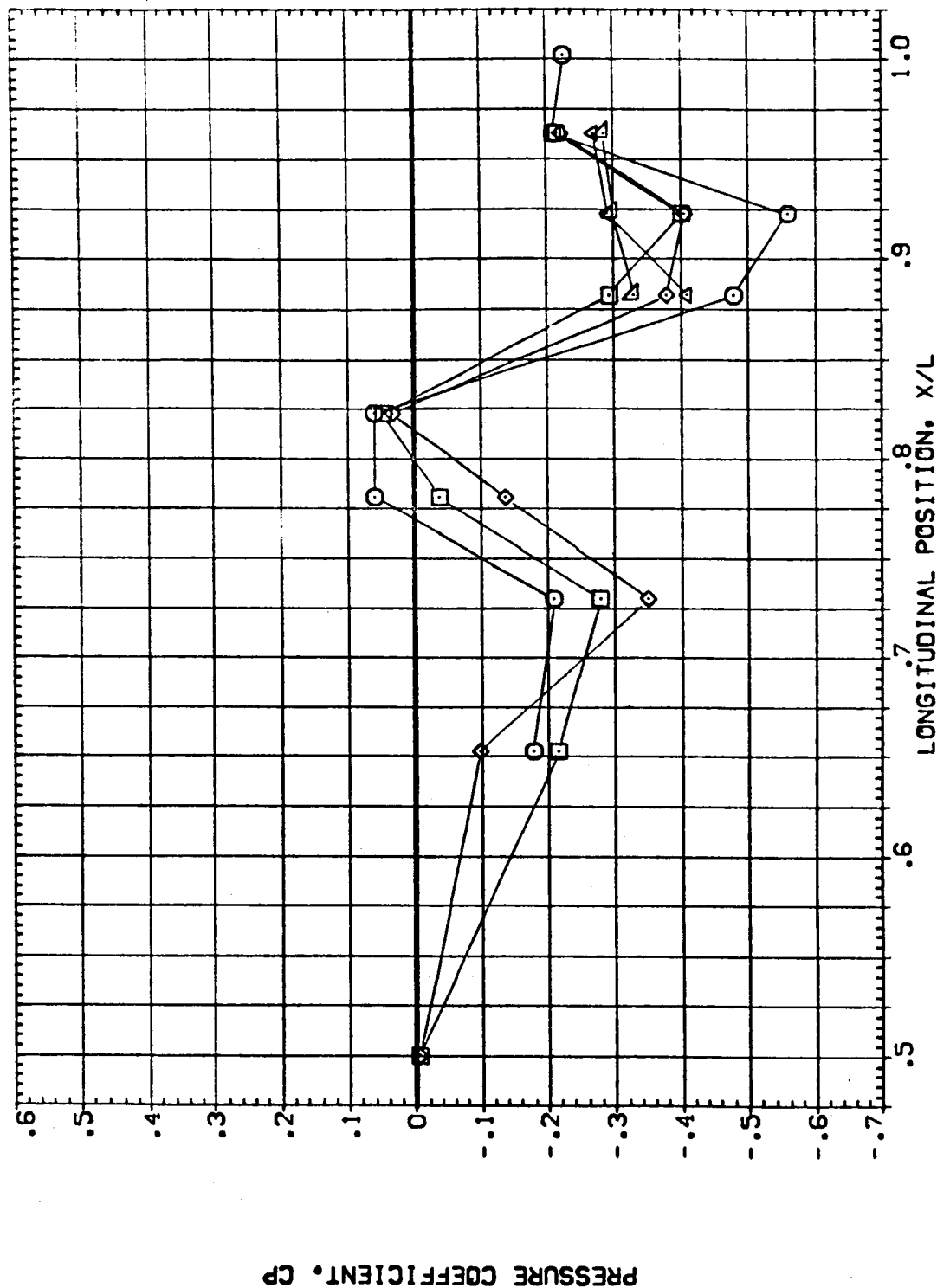


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY(CEUB01)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	180.000	-4.000	.000	RUDER	.000	1.000	4.000
□	195.000			GIMBAL	.000		.900
◇	210.000						
△	225.000						
▽	240.000						

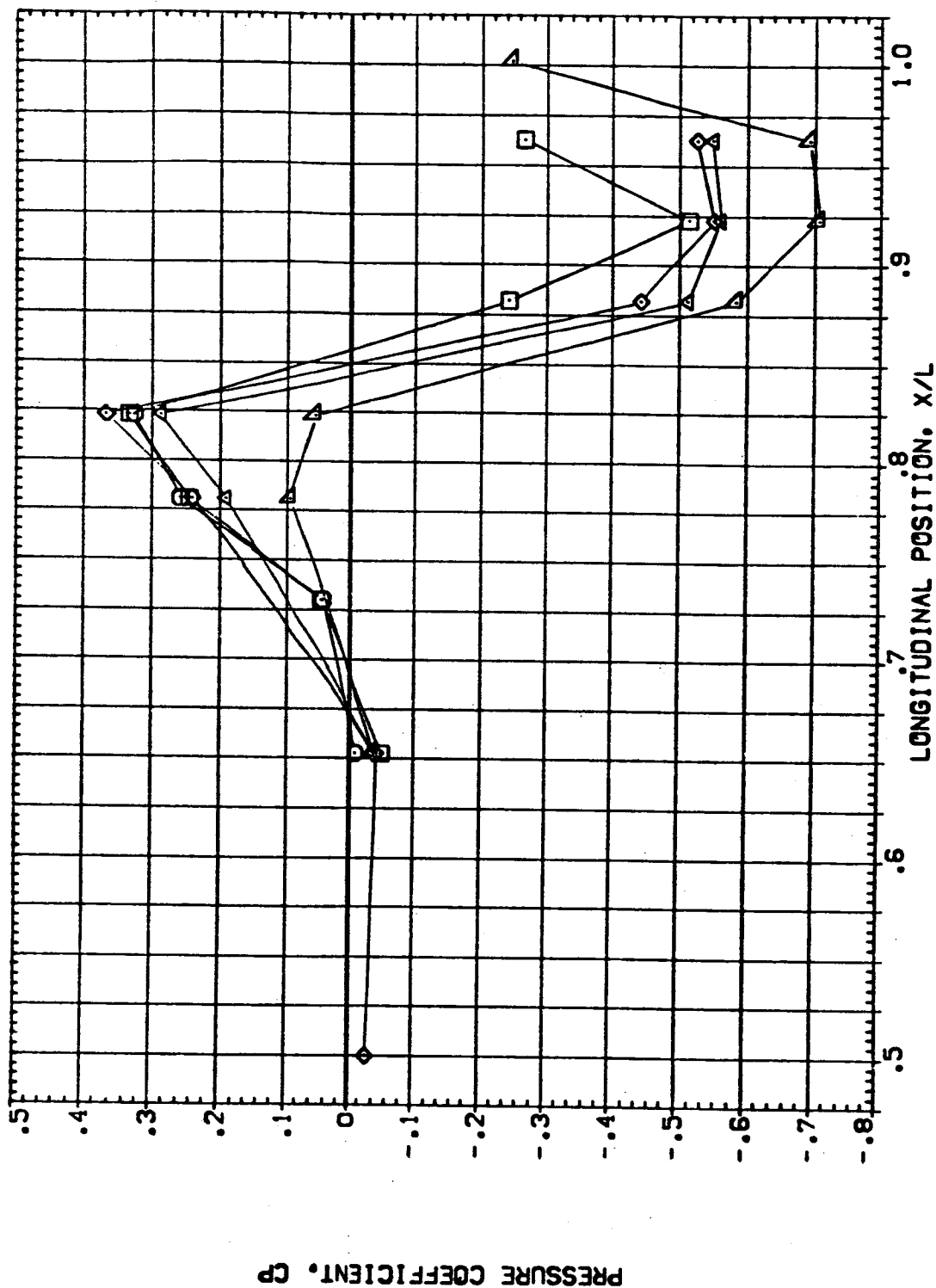


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY(CEUB01)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

PHI BETA ALPHA
 255.000 -4.000 .000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ○ □ ◇ △ ▽

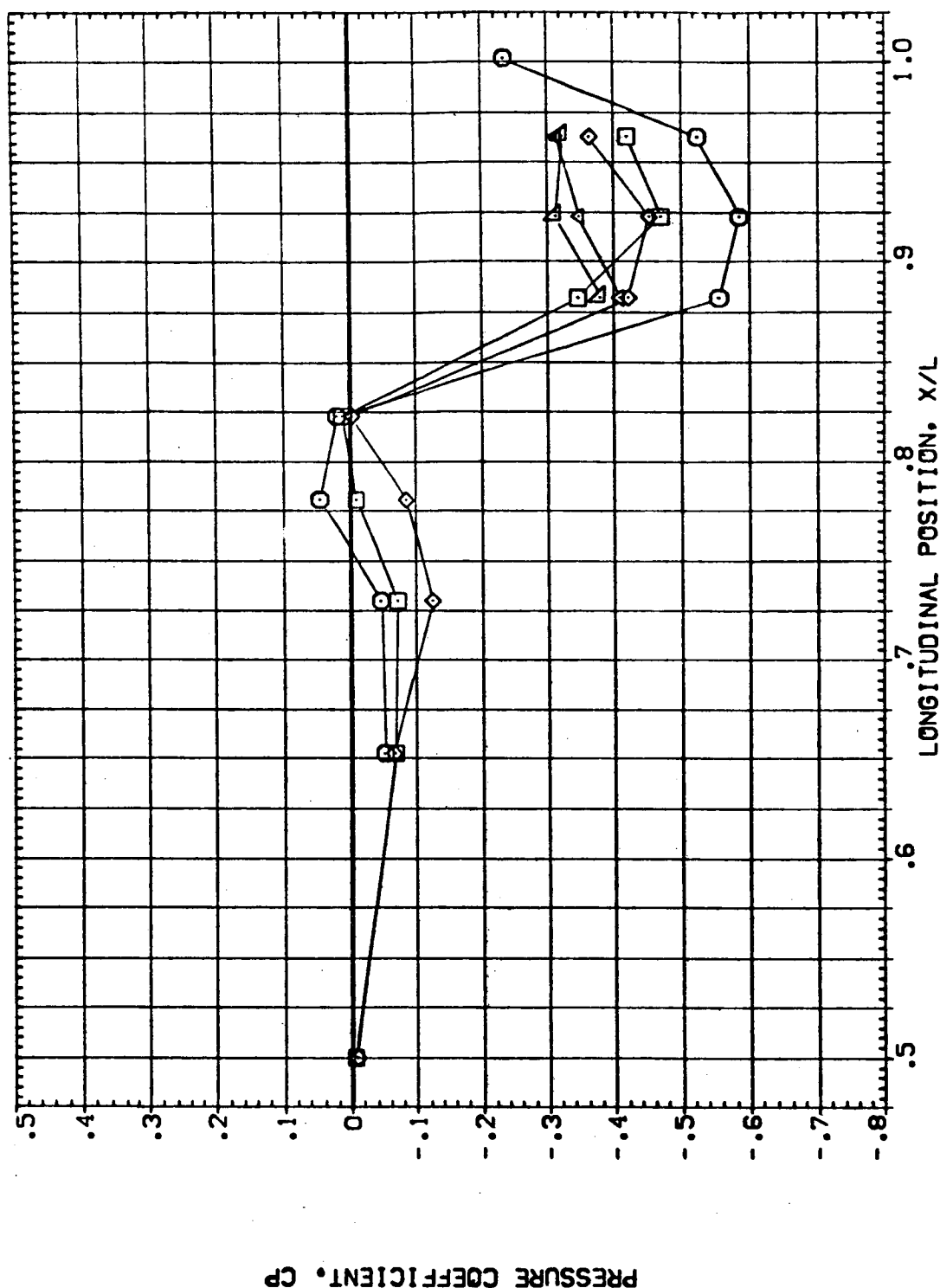


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB01)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-09	ELV-09	MACH
○	180.000	4.000	.000	RUDER	.000	1.000	.900
□	195.000			GIMBAL			
◇	210.000						
△	225.000						
▽	240.000						

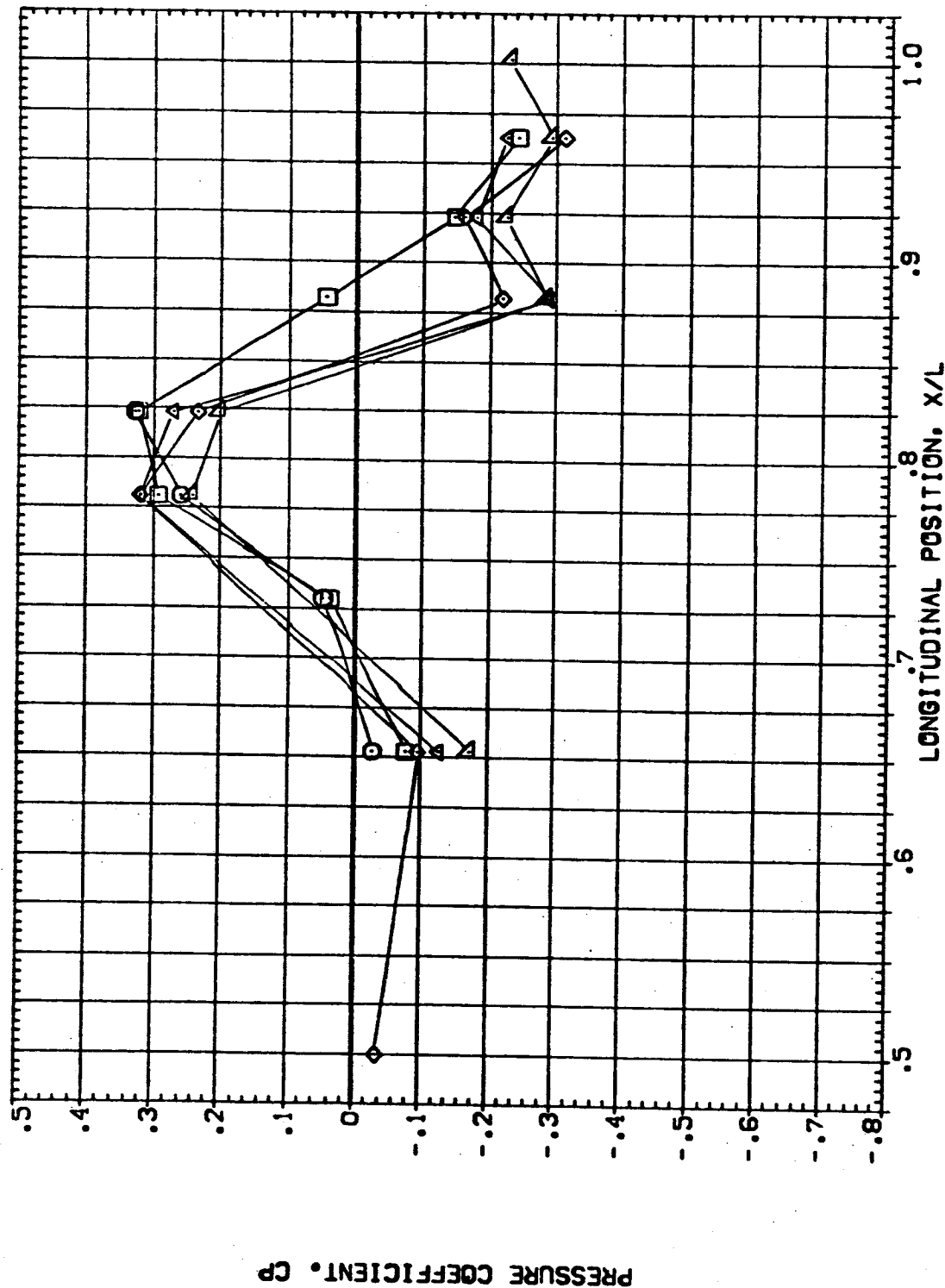


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES
○	255.000	4.000	.000	ELV-18 8.000 ELV-08 4.000
□	270.000			RUDER .000 MACH .900
◇	290.000			GIMBAL 1.000
△	320.000			
▽	360.000			

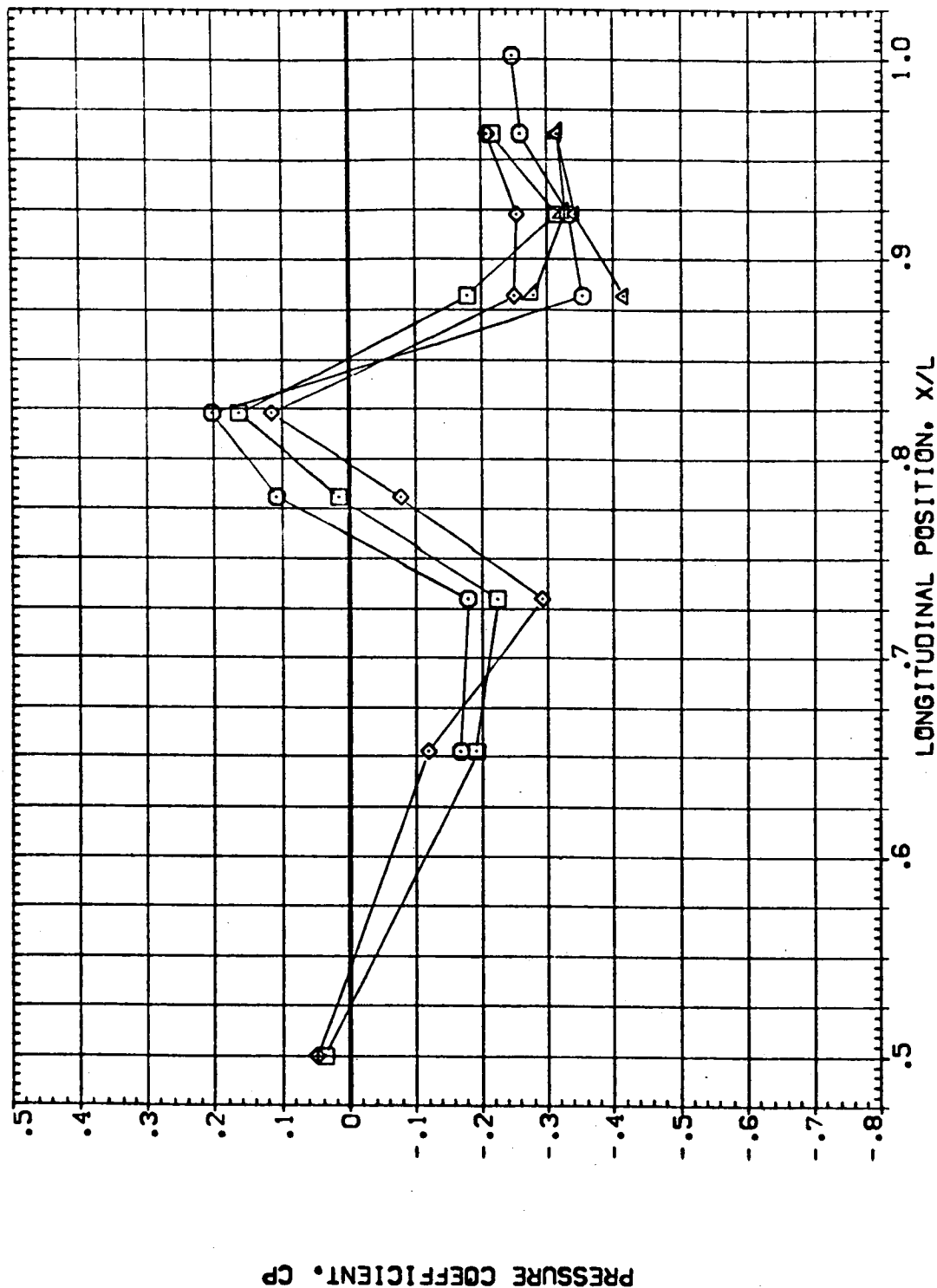


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB02)

SYMBOL	PMI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
□	180.000	.000	-4.000	RUDER	.000	MACH	1.100
◇	195.000			GIMBAL	1.000		
△	210.000						
▽	225.000						
◁	240.000						

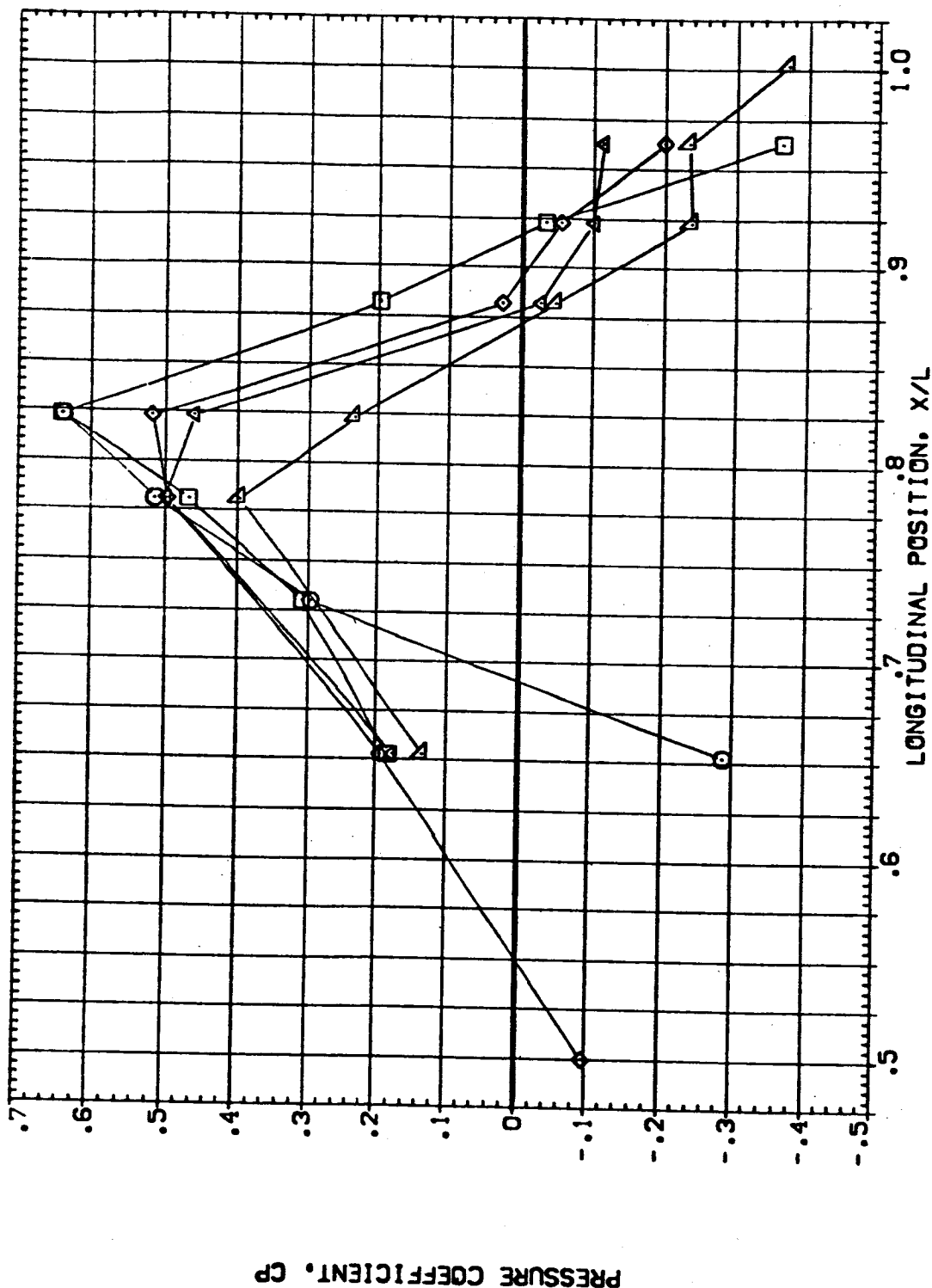


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	PHI	BETA	ALPHA	ELV-18	ELV-08
○	255,000	.000	-4.000	RUDDER	MACH
□	270,000			GIMBAL	
◇	290,000				
△	320,000				
▽	360,000				

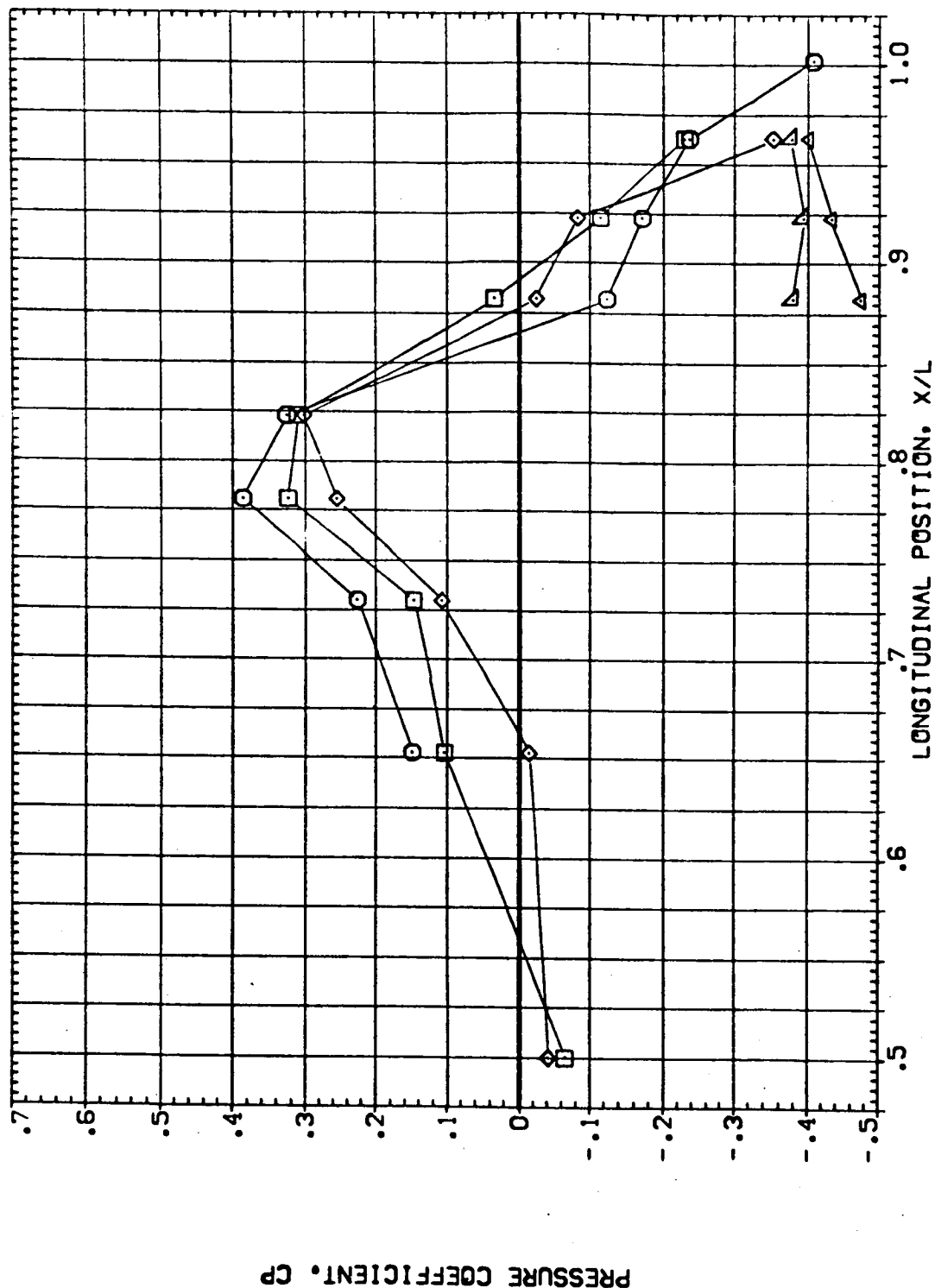


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB02)

SYMBOL PHI BETA ALPHA

○ 180.000 .000 .000

□ 195.000 .000 .000

◇ 210.000 .000 .000

△ 225.000 .000 .000

▽ 240.000 .000 .000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.100

GIMBAL 1.000

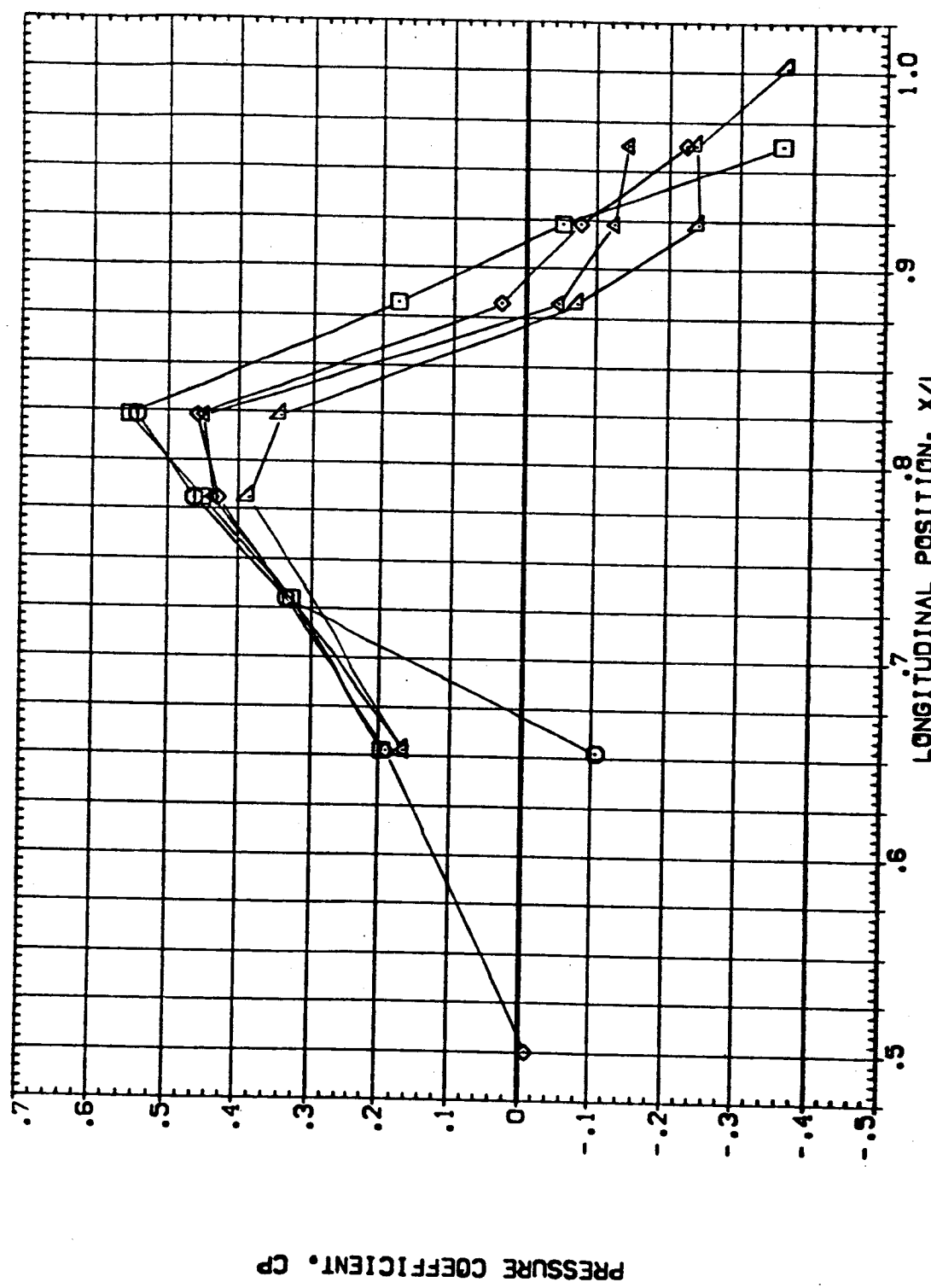


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
	255.000	.000	.000	ELV-18	8.000	ELV-08	4.000
	270.000			RUDDER	.000	MACH	1.100
	290.000			GIMBAL	1.000		
	320.000						
	360.000						

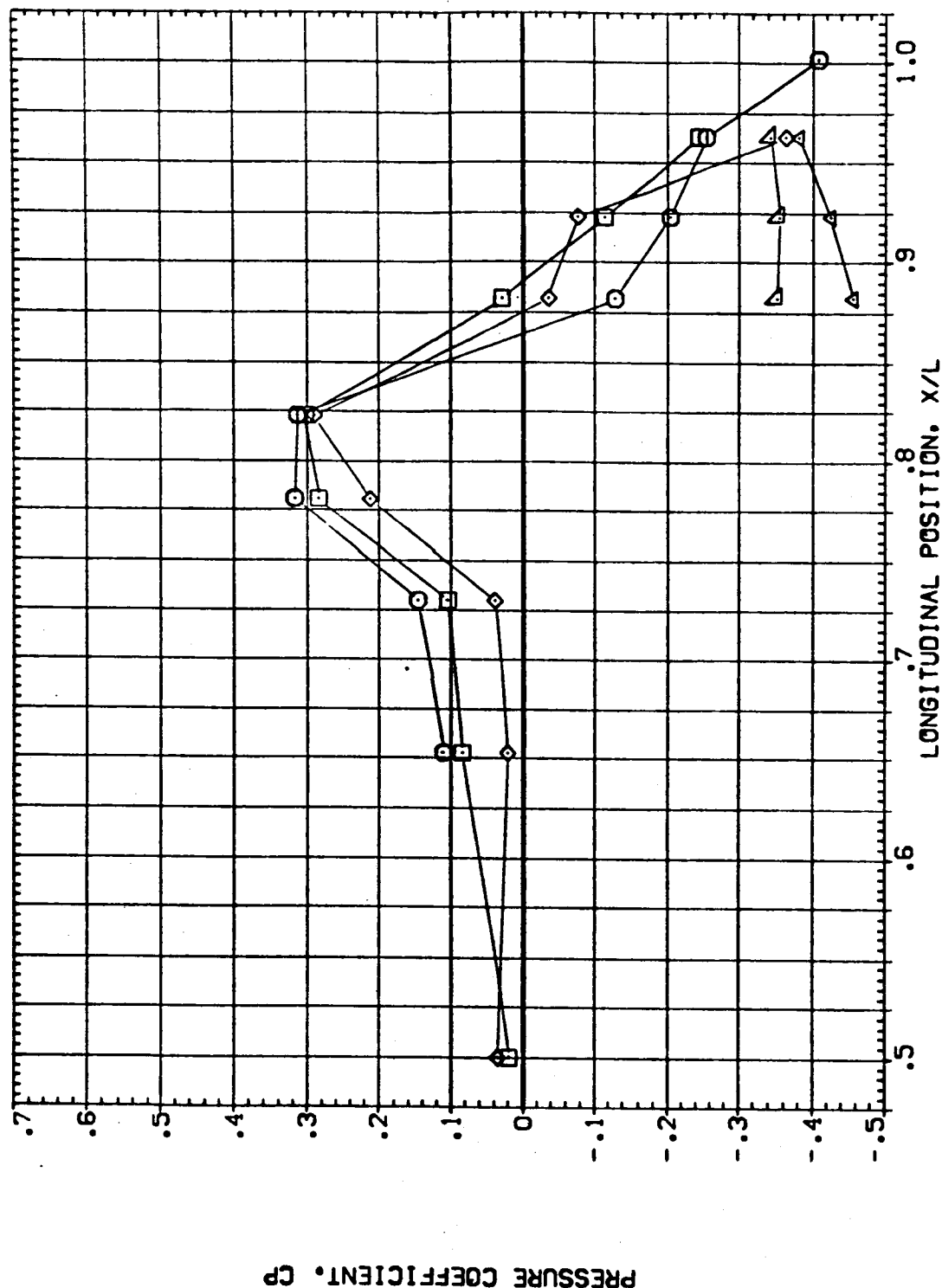


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB02)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	180.000	.000	4.000	RUDER	.000	1.000	4.000
□	195.000			GIMBAL	1.000		1.100
◇	210.000						
△	225.000						
▽	240.000						

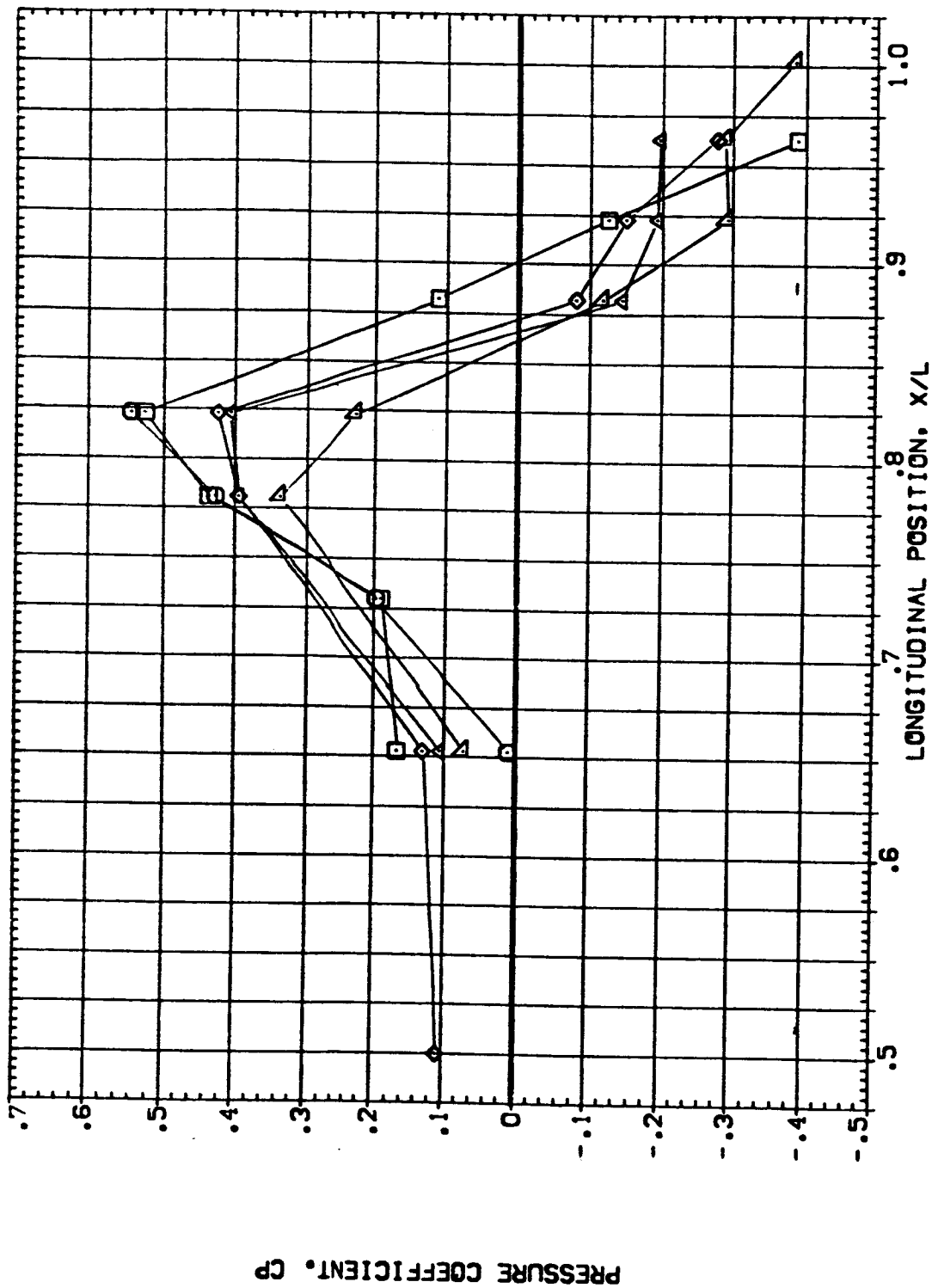


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB02)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-19	ELV-08	MACH	
○	255.000	.000	1.000	8.000	8.000	1.000	4.000
□	270.000			RUDDER			1.100
◇	290.000			GIMBAL			
△	320.000						
▽	360.000						

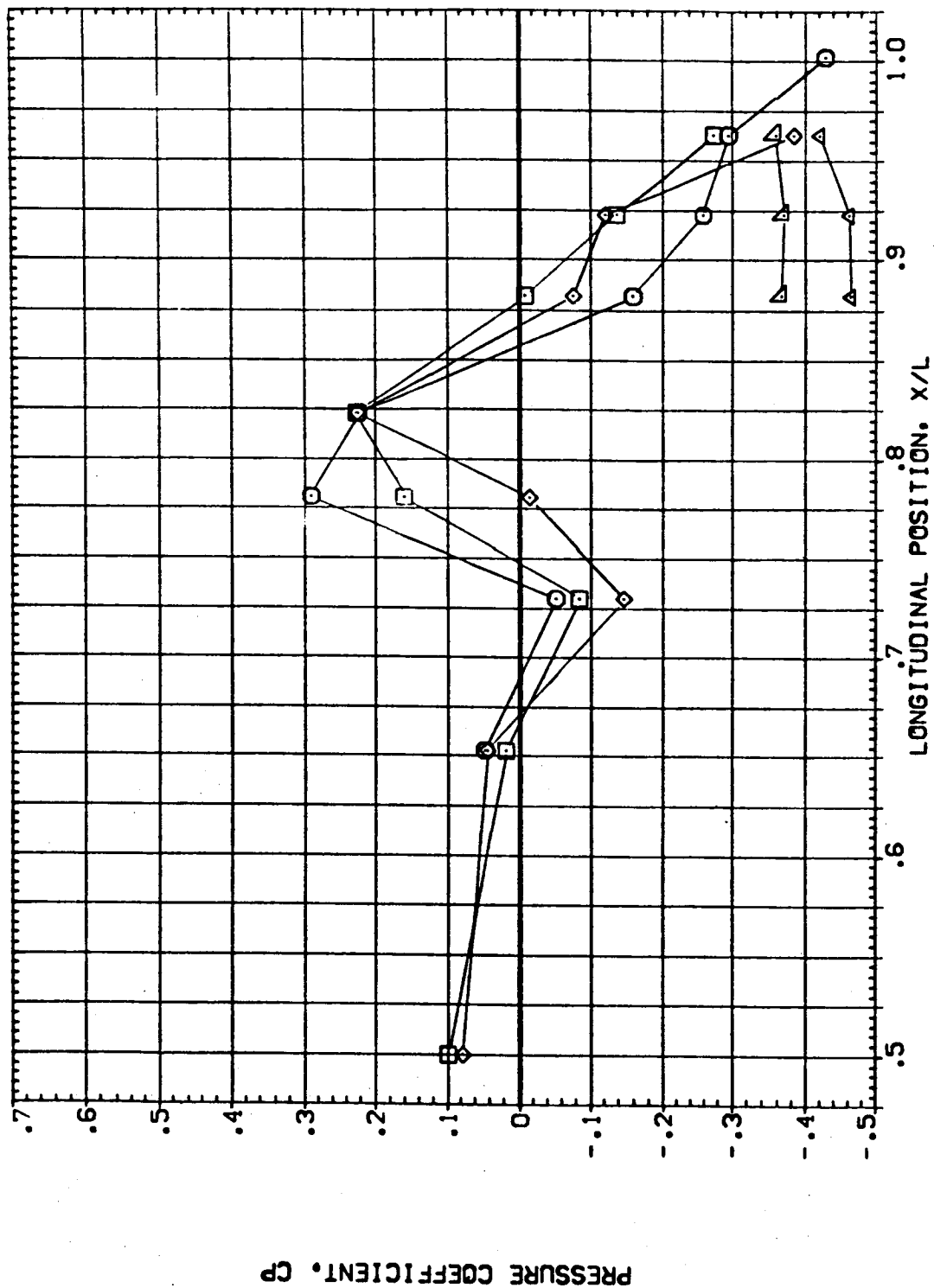


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB02)

SYMBOL	PMI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-19	ELV-08	ELV-08	ELV-08
□	180.000	-4.000	.000	RUDER	.000	MACH	4.000
◇	195.000			GIMBAL	1.000		1.100
△	210.000						
▽	225.000						
◻	240.000						

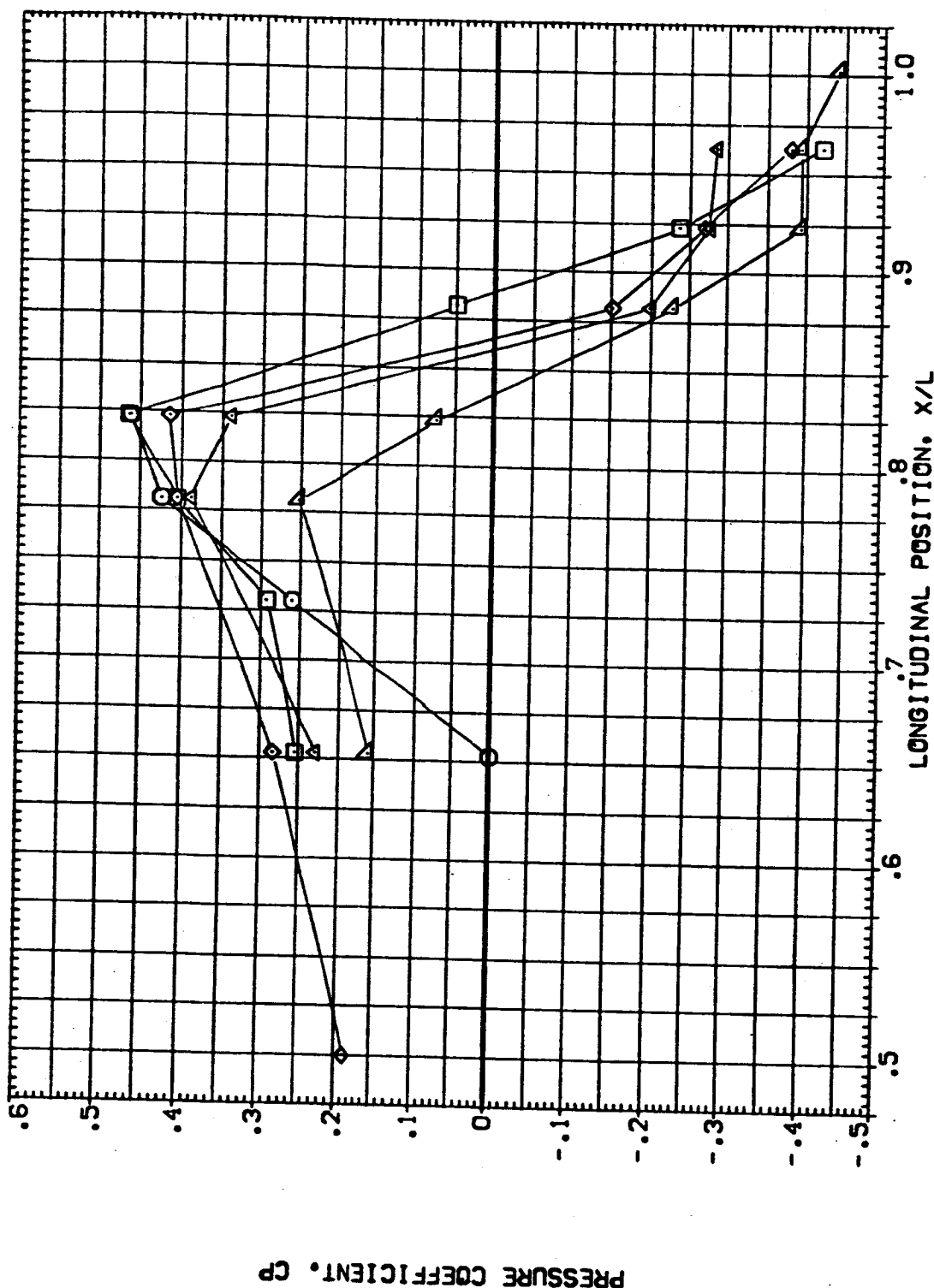


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB02)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	255.000	-4.000	.000	ELV-18	8.000	1.000	4.000
□	270.000			RUDER	.000		1.100
◇	290.000			GIMBAL	1.000		
△	320.000						
▽	360.000						

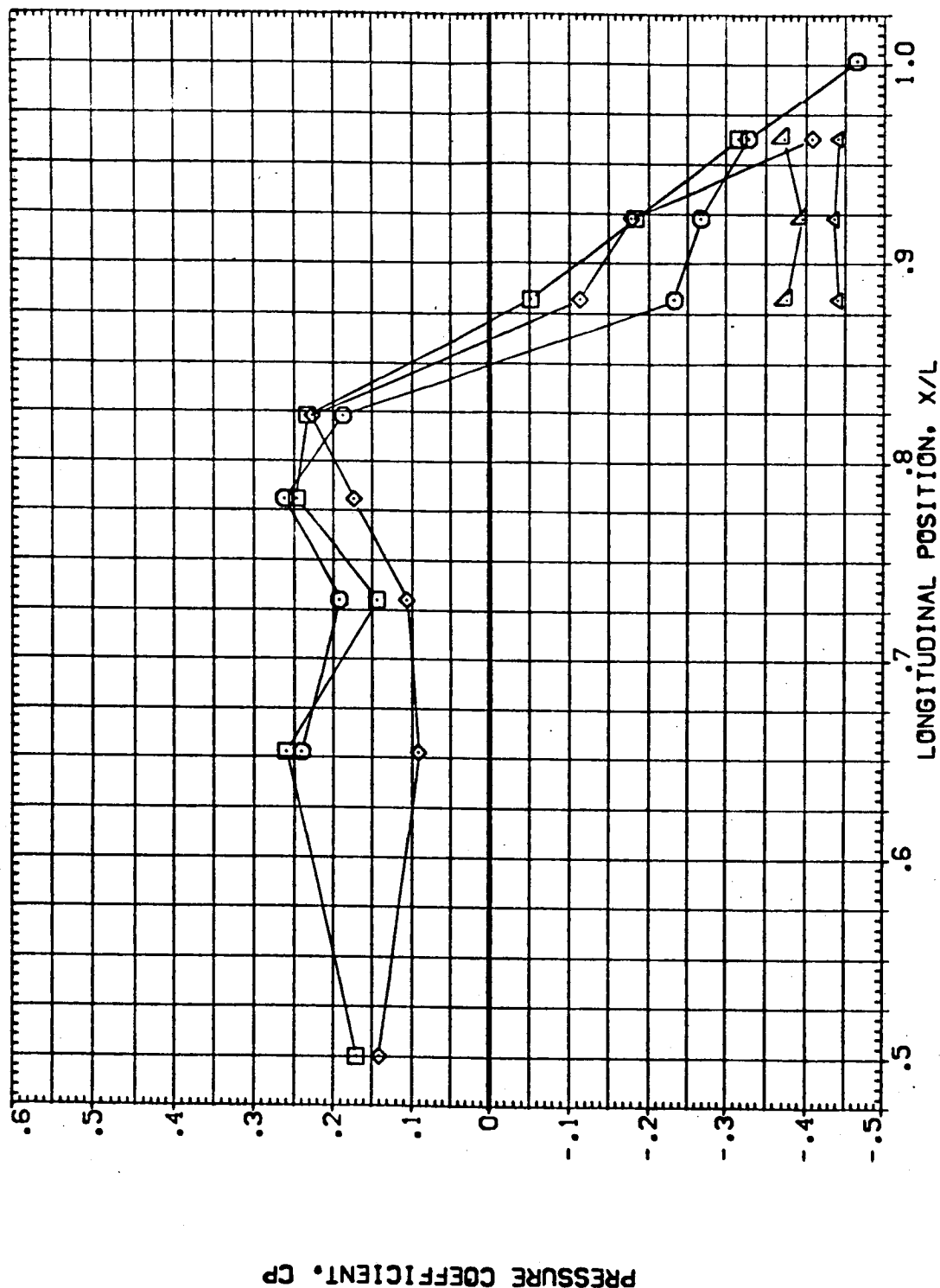


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB02)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	180.000	4.000	.000	RUDER	.000	1.000	
□	195.000			GIMBAL	1.000	1.100	
◇	210.000						
△	225.000						
▽	240.000						

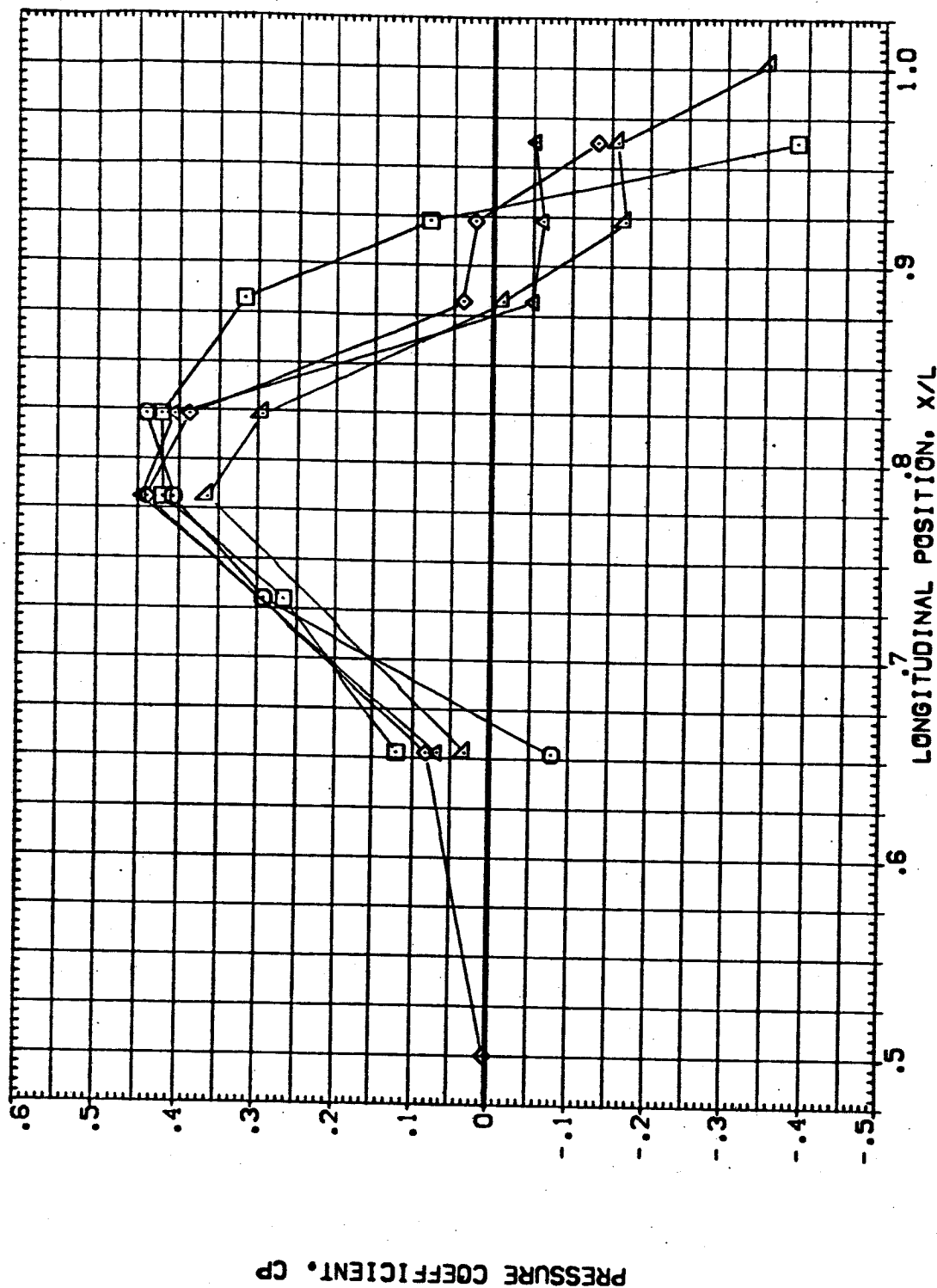


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB02)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	255.000	1.000	.000	8.000	8.000	1.000	4.000
□	270.000			RUDER			1.100
◇	290.000			GIMBAL			
△	320.000						
▽	360.000						

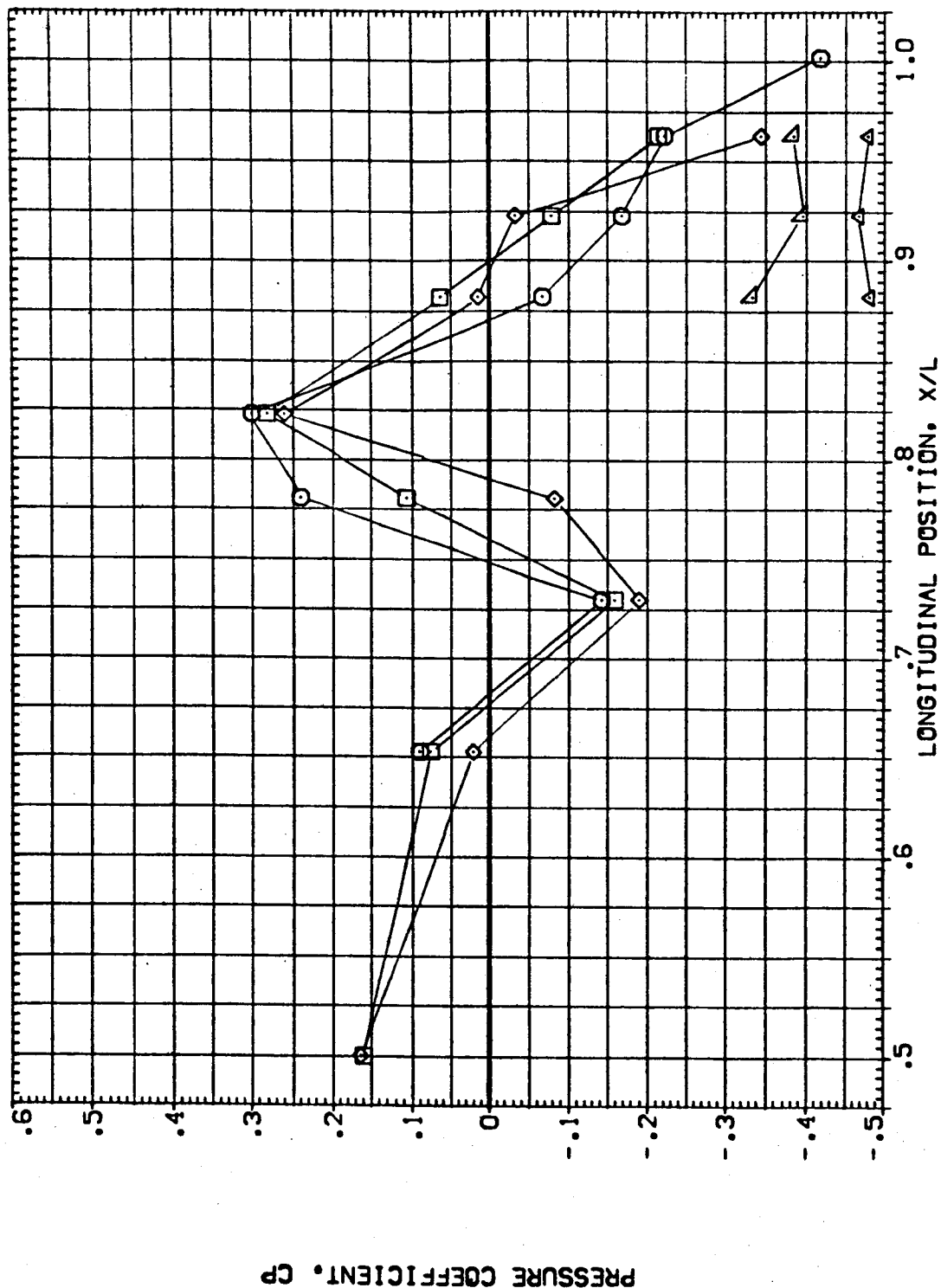


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB03)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	190.000	.000	-4.000	RUDER	.000	MACH	1.250
□	195.000			GIMBAL	1.000		
◇	210.000						
△	225.000						
▽	240.000						

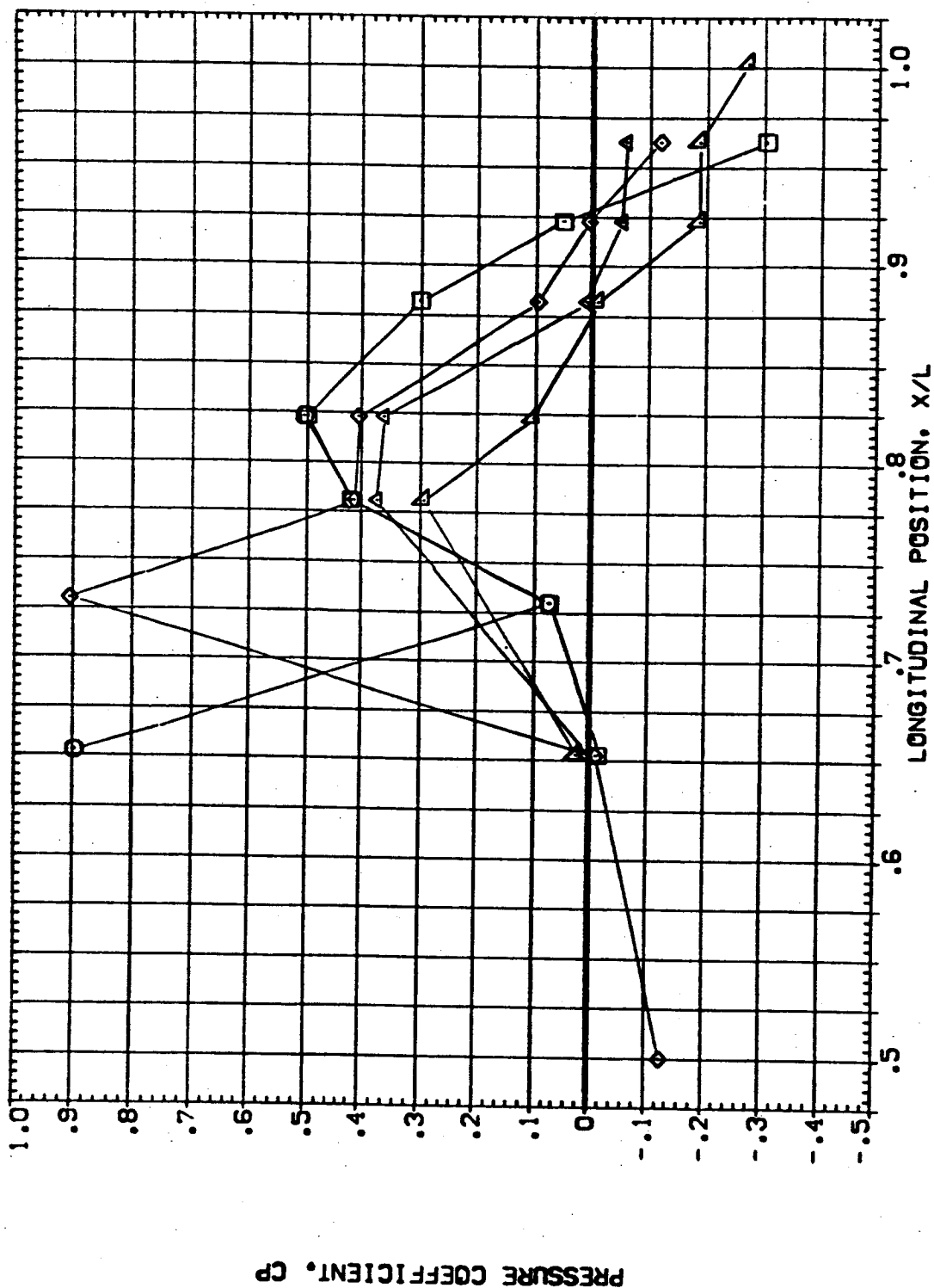


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES
○	255.000	.000	-4.000	ELV-18
□	270.000			RUDER
◇	290.000			GIMBAL
△	320.000			
▽	360.000			

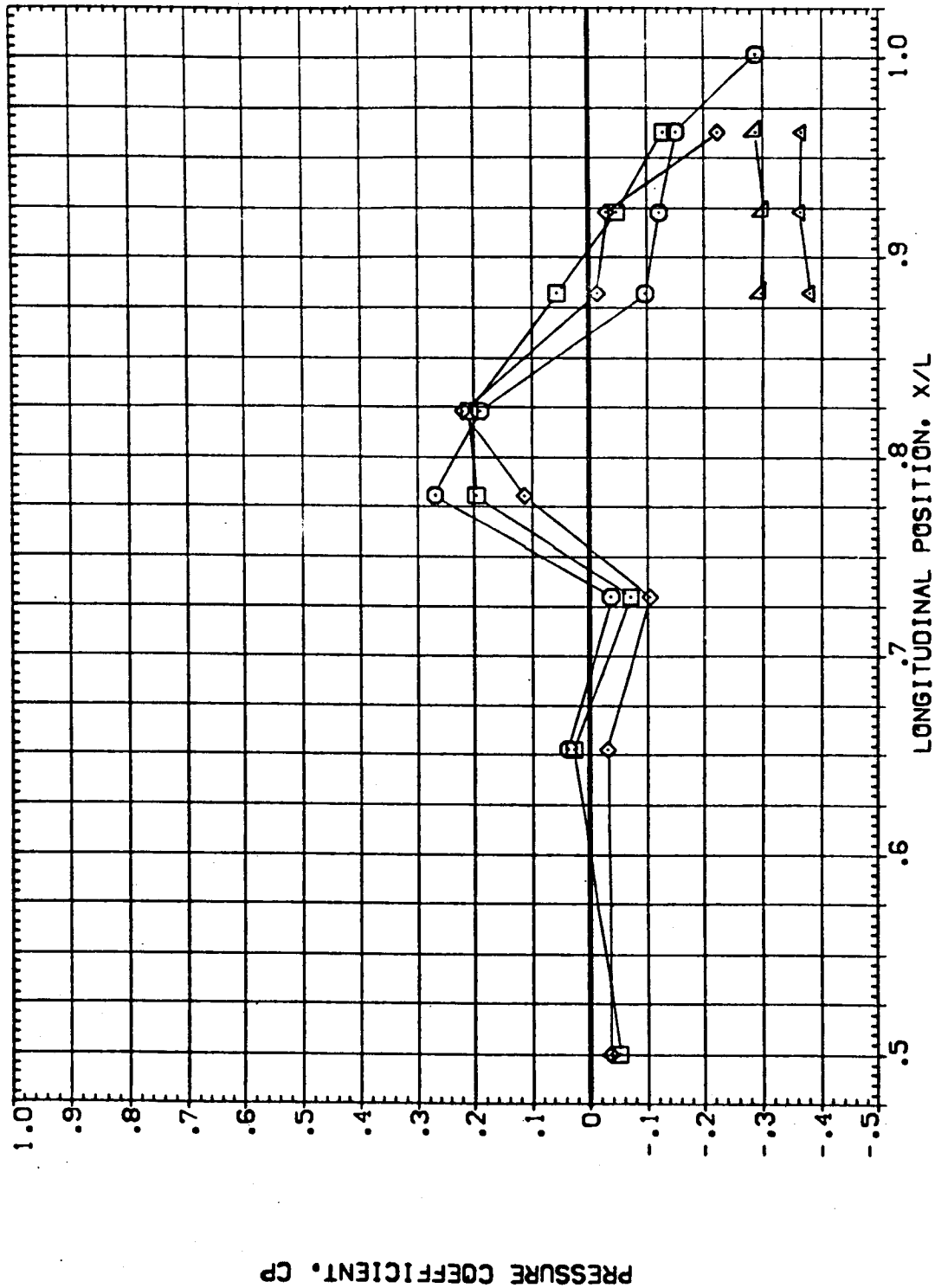


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB03)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
□	180.000	.000	.000	RUDDER	.000	1.000	1.250
◇	195.000			GIMBAL			
△	210.000						
▽	225.000						
▽	240.000						

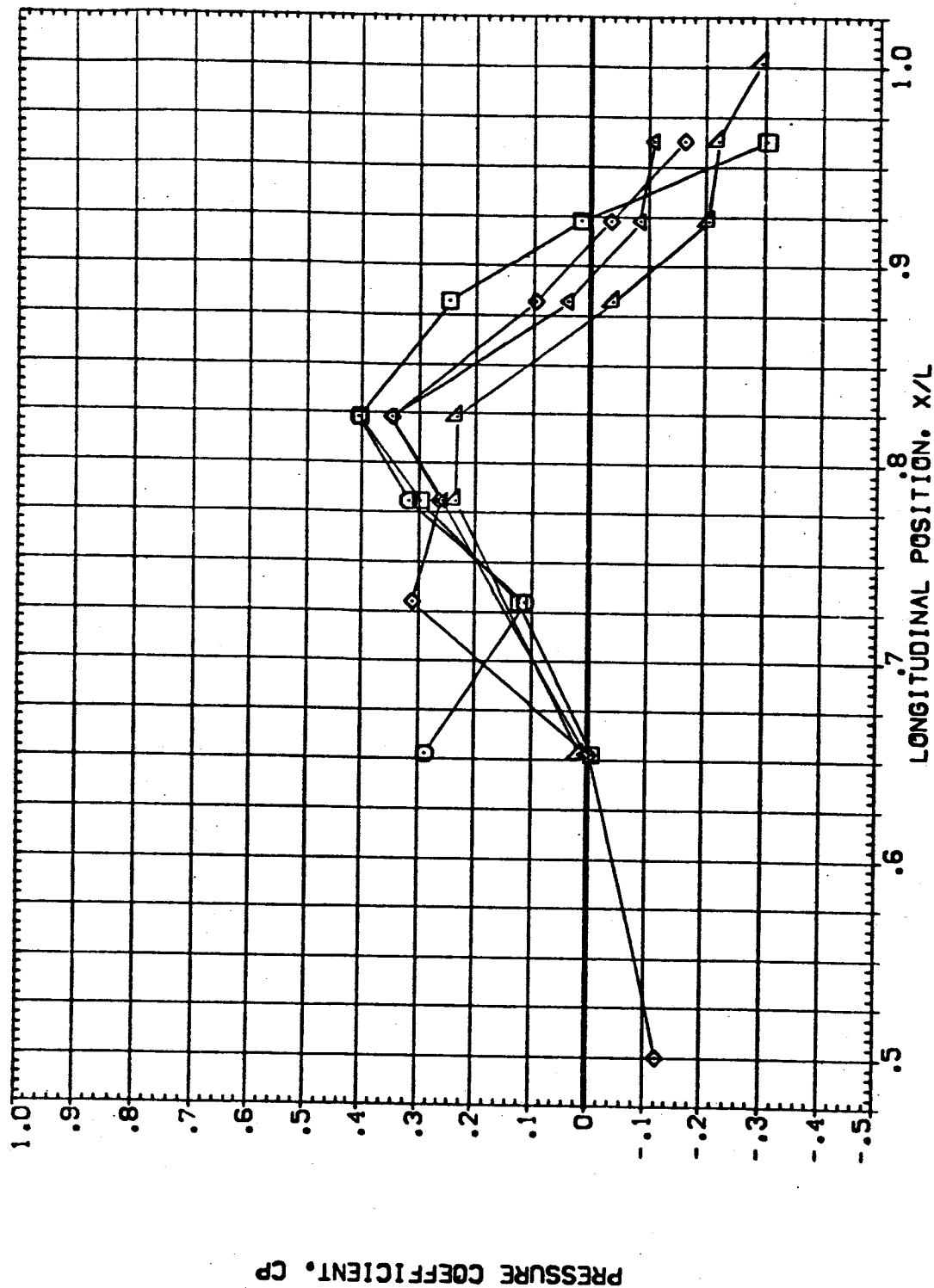


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB03)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

PHI BETA ALPHA
 255.000 .000 .000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ○ □ ◇ △ ▽

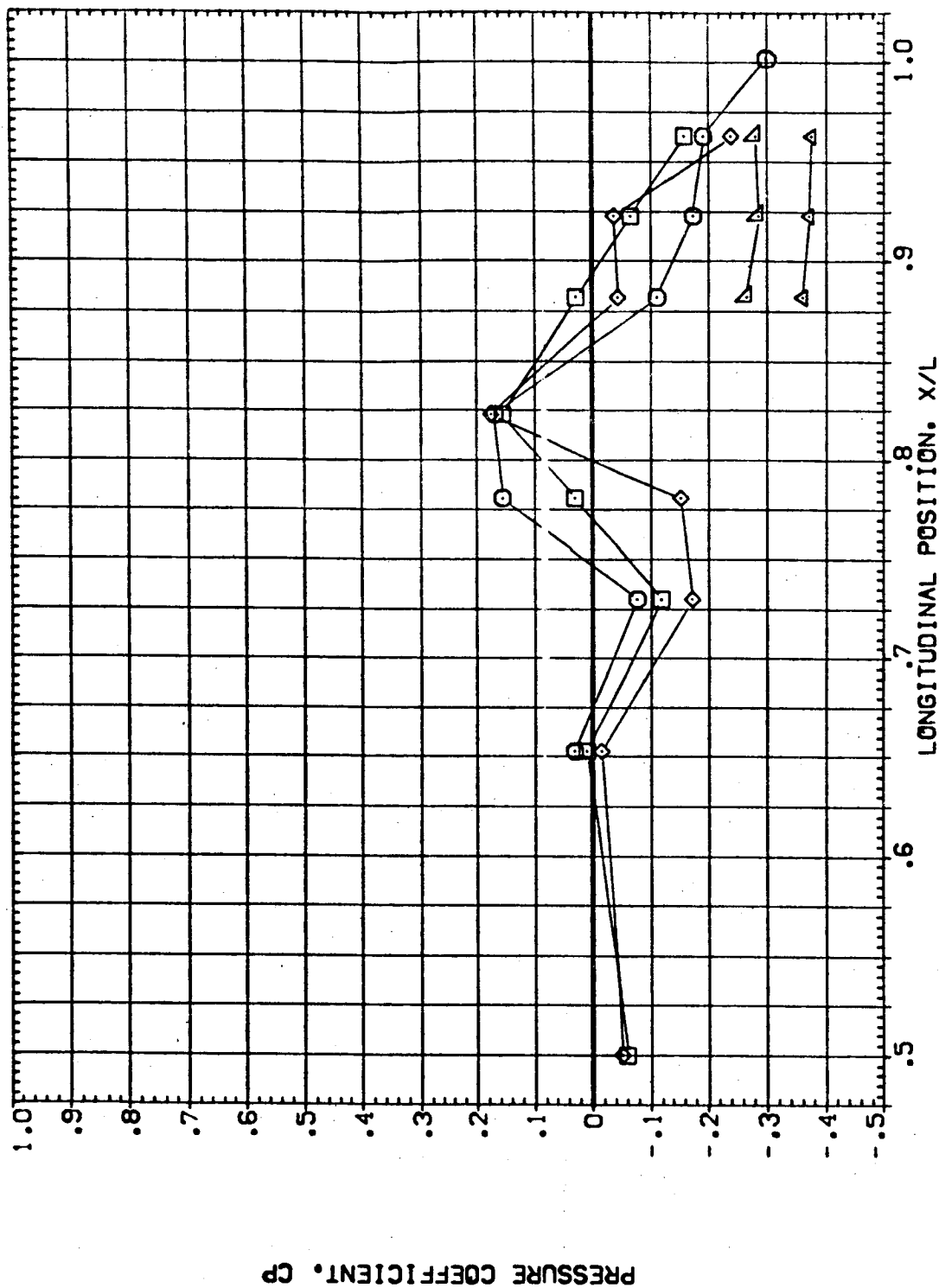


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB03)

SYMBOL	PARAMETRIC VALUES	
	ELV-18	ELV-09
□	0.000	4.000
◇	.000	1.250
△	1.000	1.000

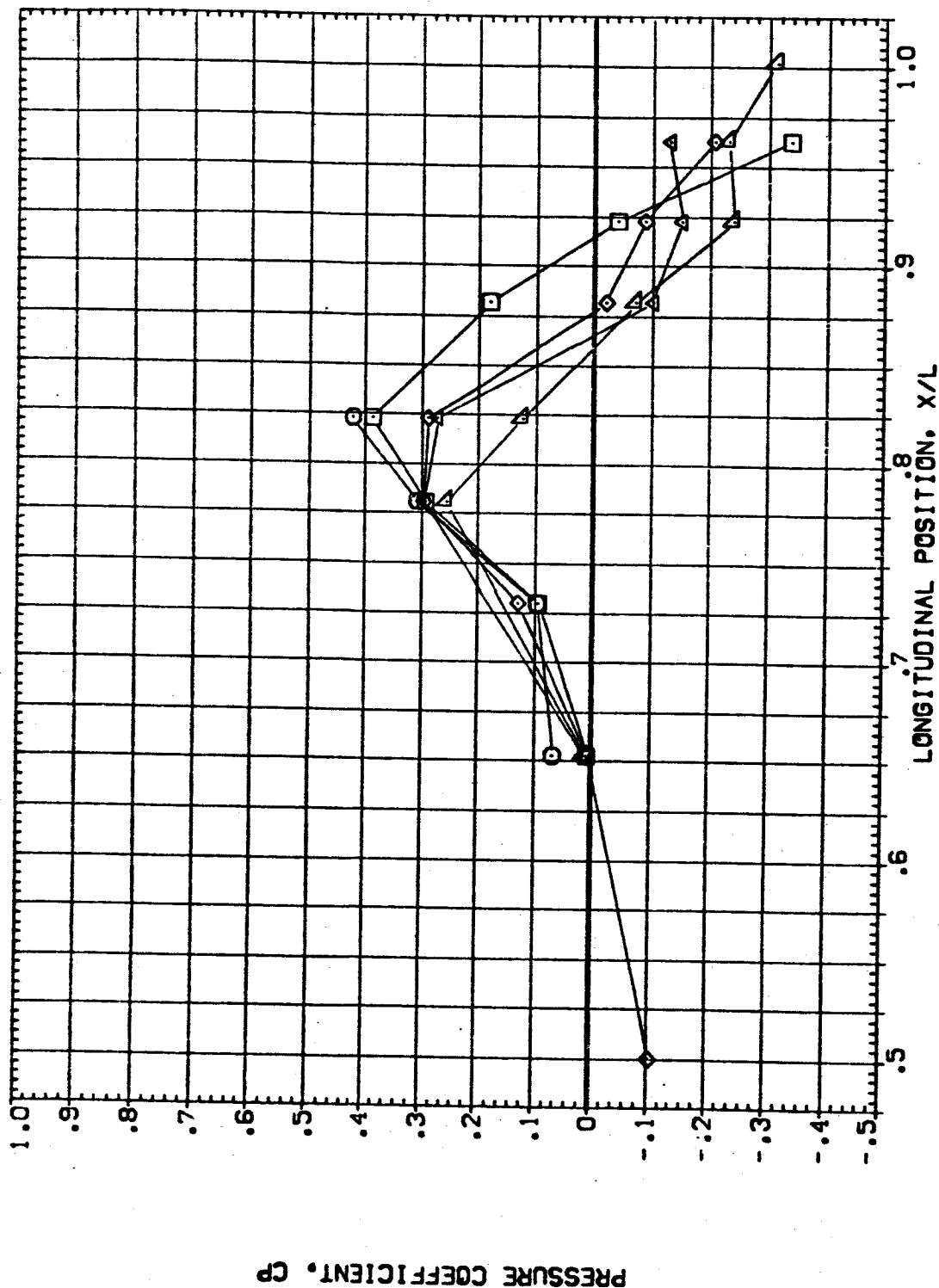


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-IB	8.000	ELV-OB	4.000
○	255.000	.000	4.000	RUDER	.000	MACH	1.250
□	270.000			GIMBAL	1.000		
◇	290.000						
△	320.000						
▽	360.000						

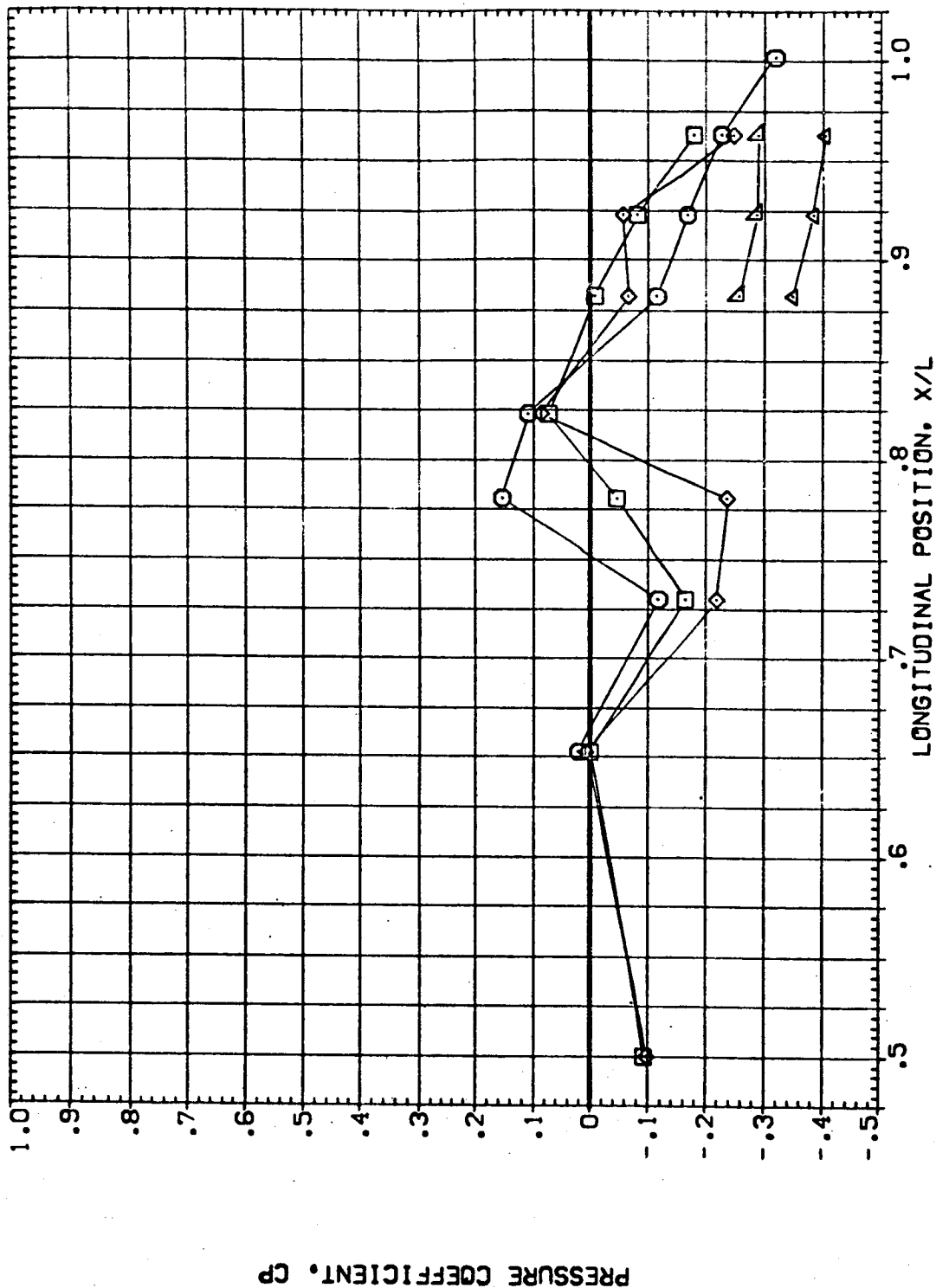


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY(CEUB03)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	180.000	-4.000	.000	RUDER	.000	1.000	
□	195.000			GIMBAL	1.000		
◇	210.000						
△	225.000						
▽	240.000						

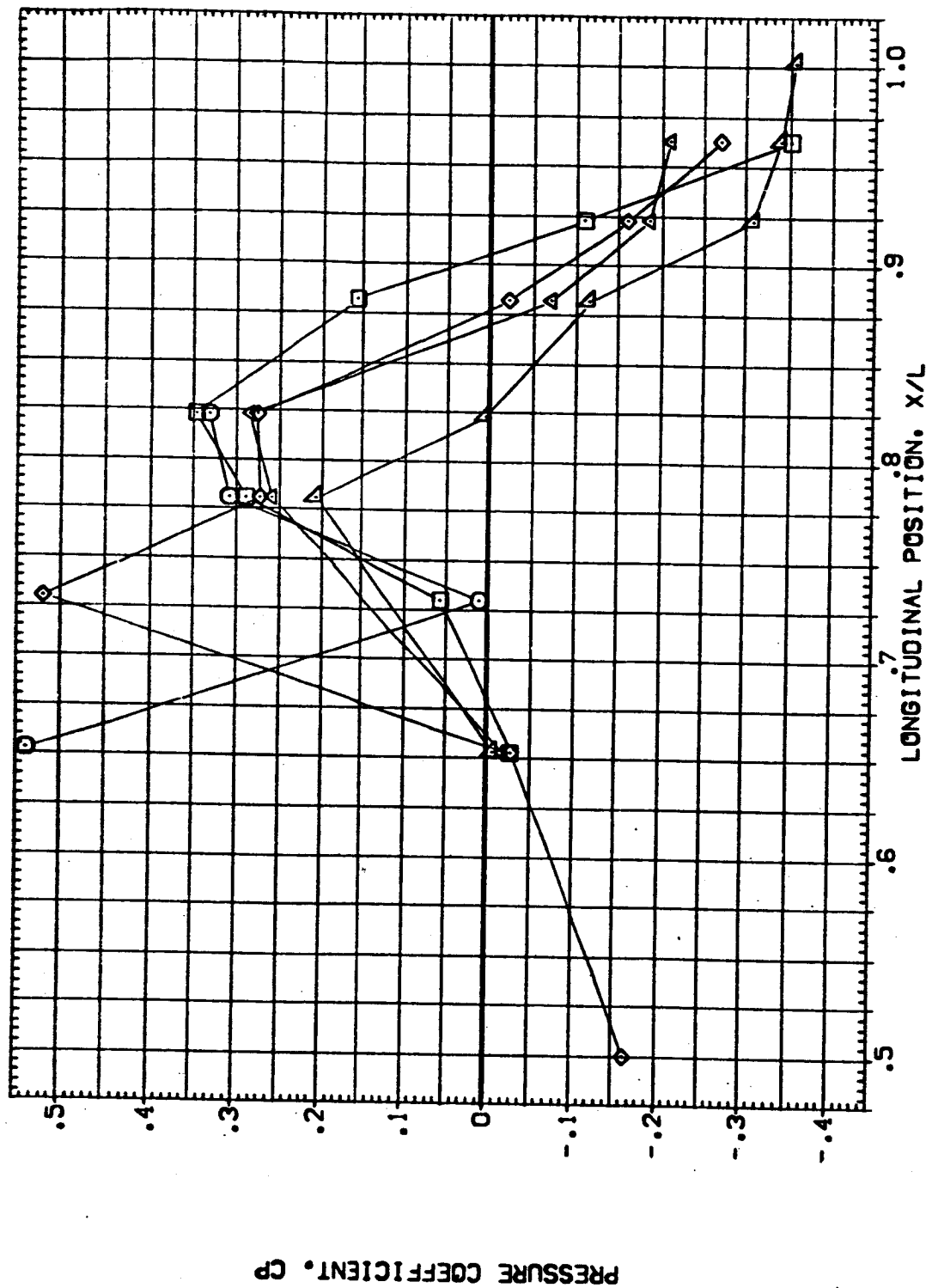


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL PHI BETA ALPHA

○ 255.000 -4.000 .000

□ 270.000 .000

◇ 290.000 .000

△ 320.000 .000

▽ 360.000 .000

PARAMETRIC VALUES

ELV-19 8.000 ELV-08 4.000

RUDER .000 MACH 1.250

GIMBAL 1.000

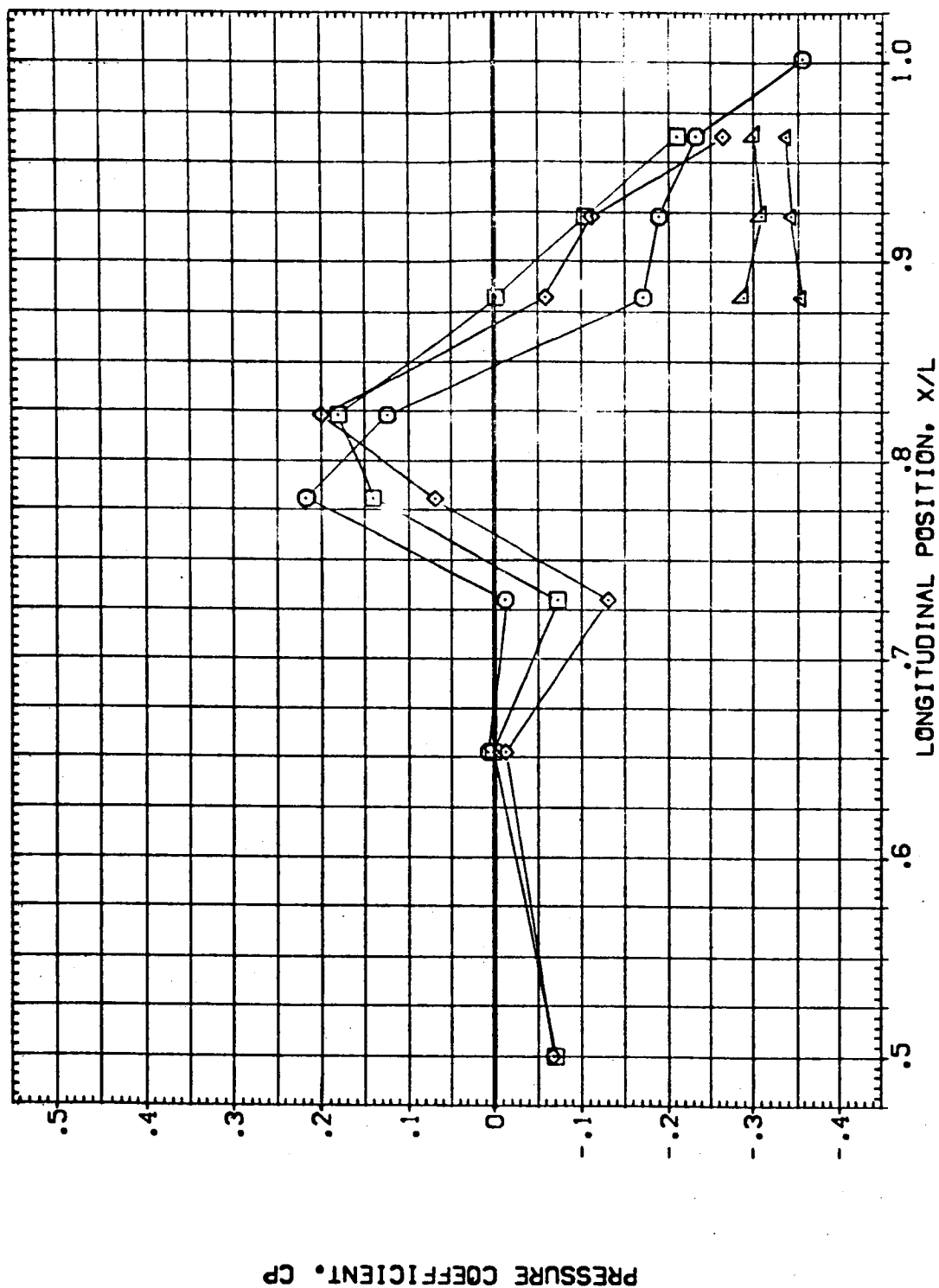


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB03)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	180.000	4.000	.000	RUDER	.000	1.000	
□	195.000			GIMBAL	1.000		
◇	210.000						
△	225.000						
▽	240.000						

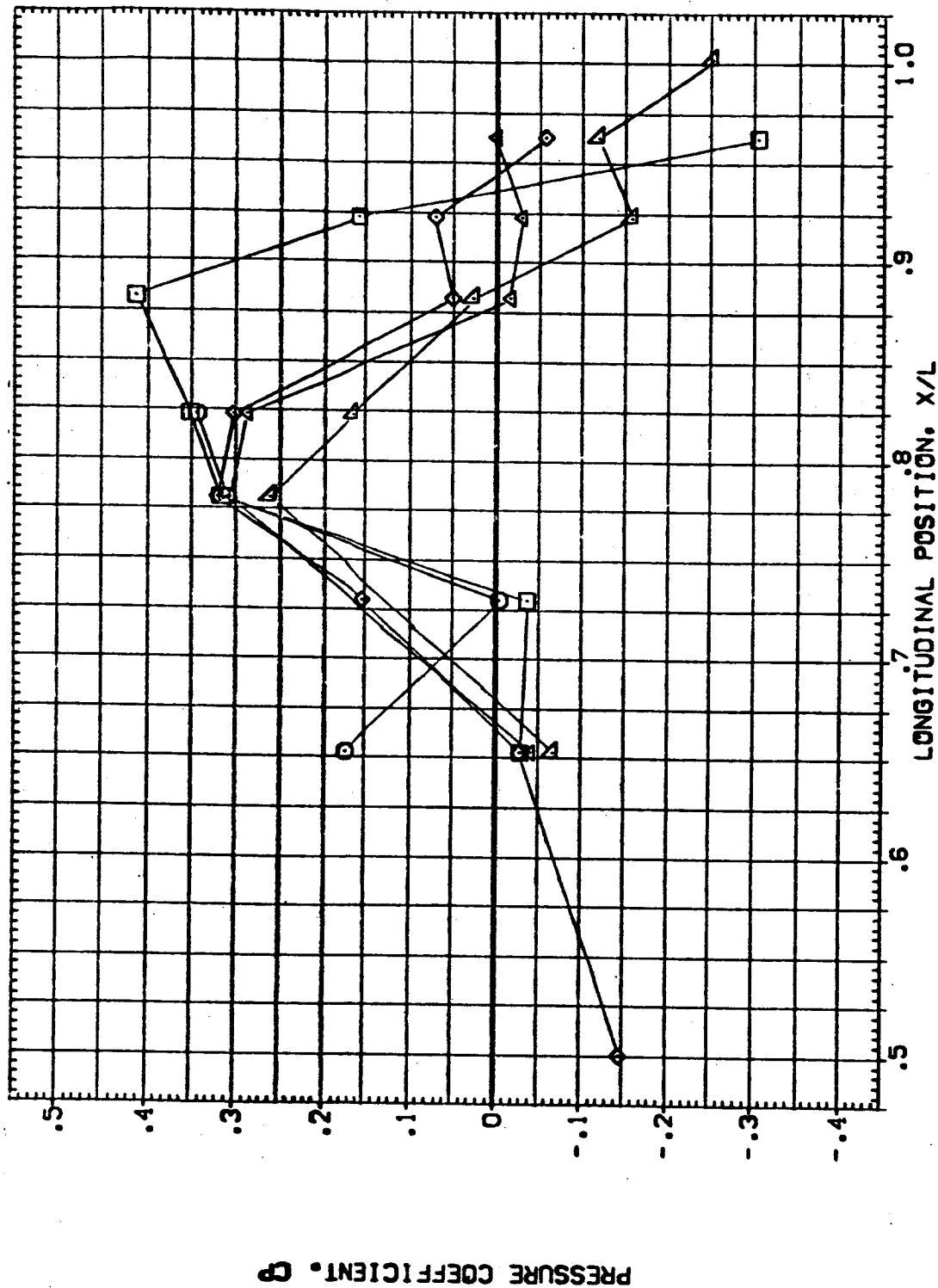


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SR8-OFF MPS-OFF ORB BODY (CEUB03)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES
○	255.000	4.000	.000	ELV-OB 4.000
□	270.000			RUDER .000
◇	290.000			MACH 1.250
△	320.000			GIMBAL 1.000
▽	360.000			

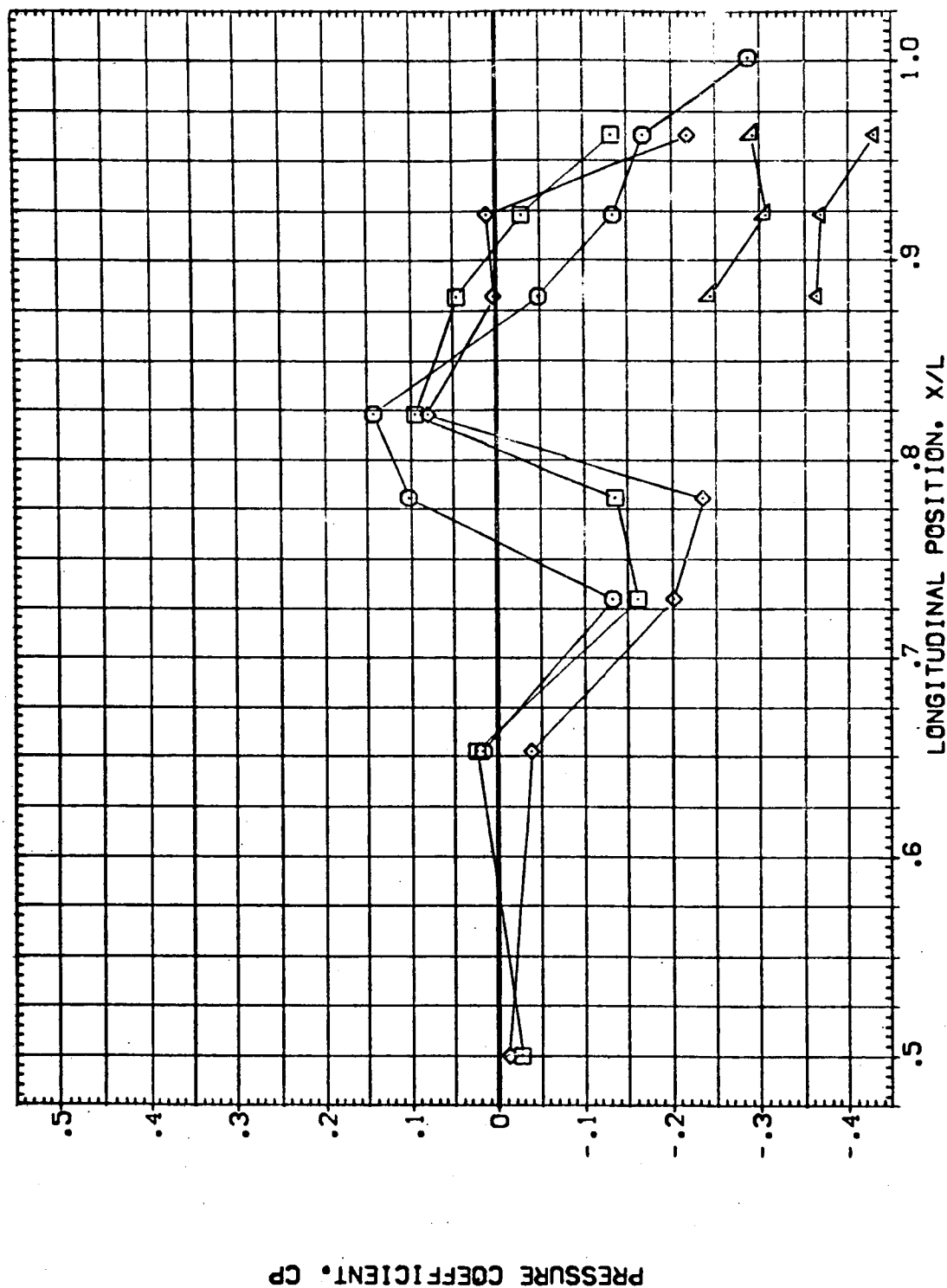


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB04)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
□	180.000	.000	-1.000	RUDER	.000	1.000	4.000
◇	195.000			GIMBAL	1.000		1.400
△	210.000						
▽	225.000						
◁	240.000						

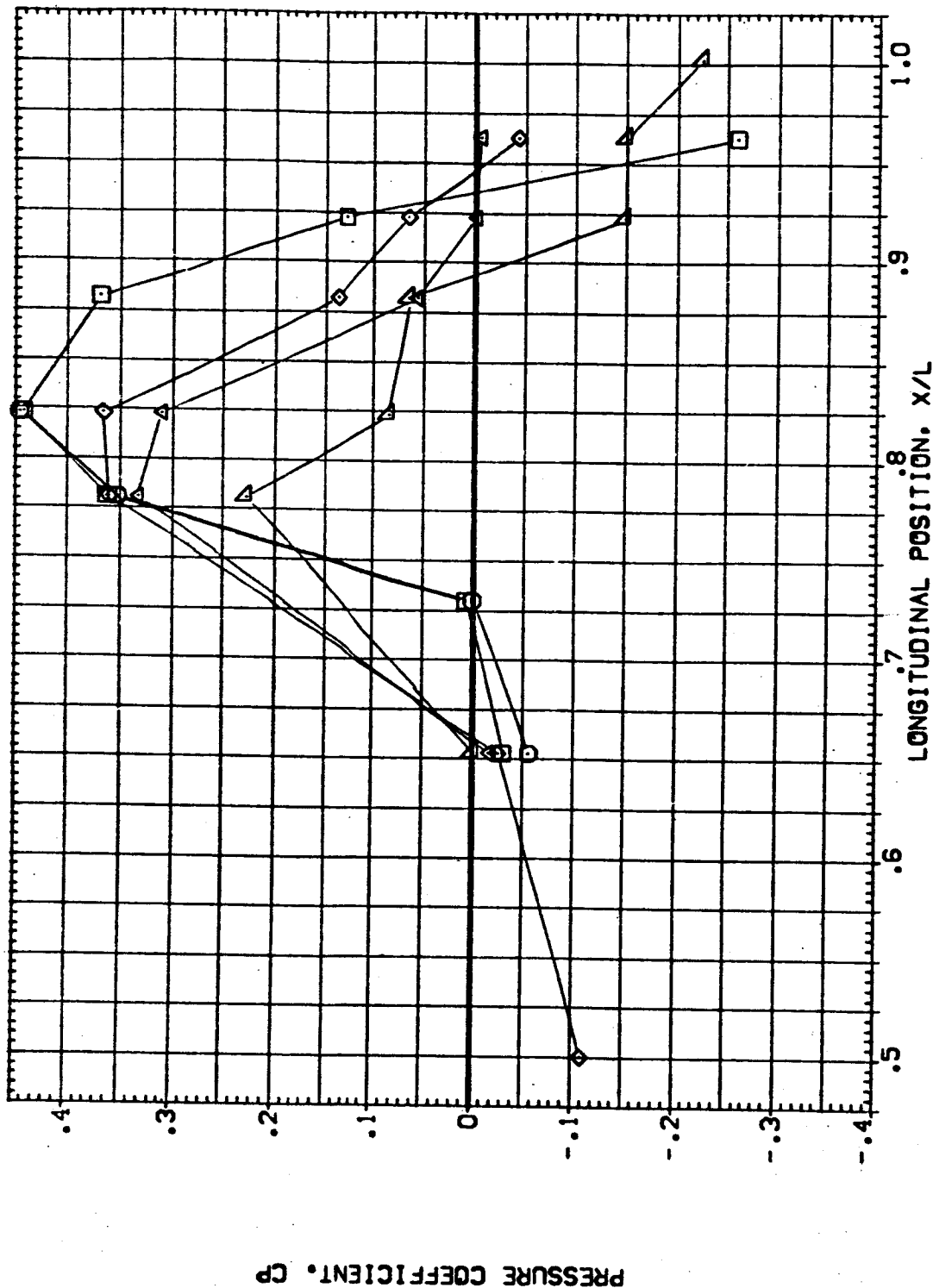


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL		PHI		BETA		ALPHA		PARAMETRIC VALUES			
○	255.000		.000		-4.000	ELV-19	8.000	ELV-09	4.000		
□	270.000					RUDER	.000	MACH	1.400		
◇	290.000					GIMBAL	1.000				
△	320.000										
△	360.000										

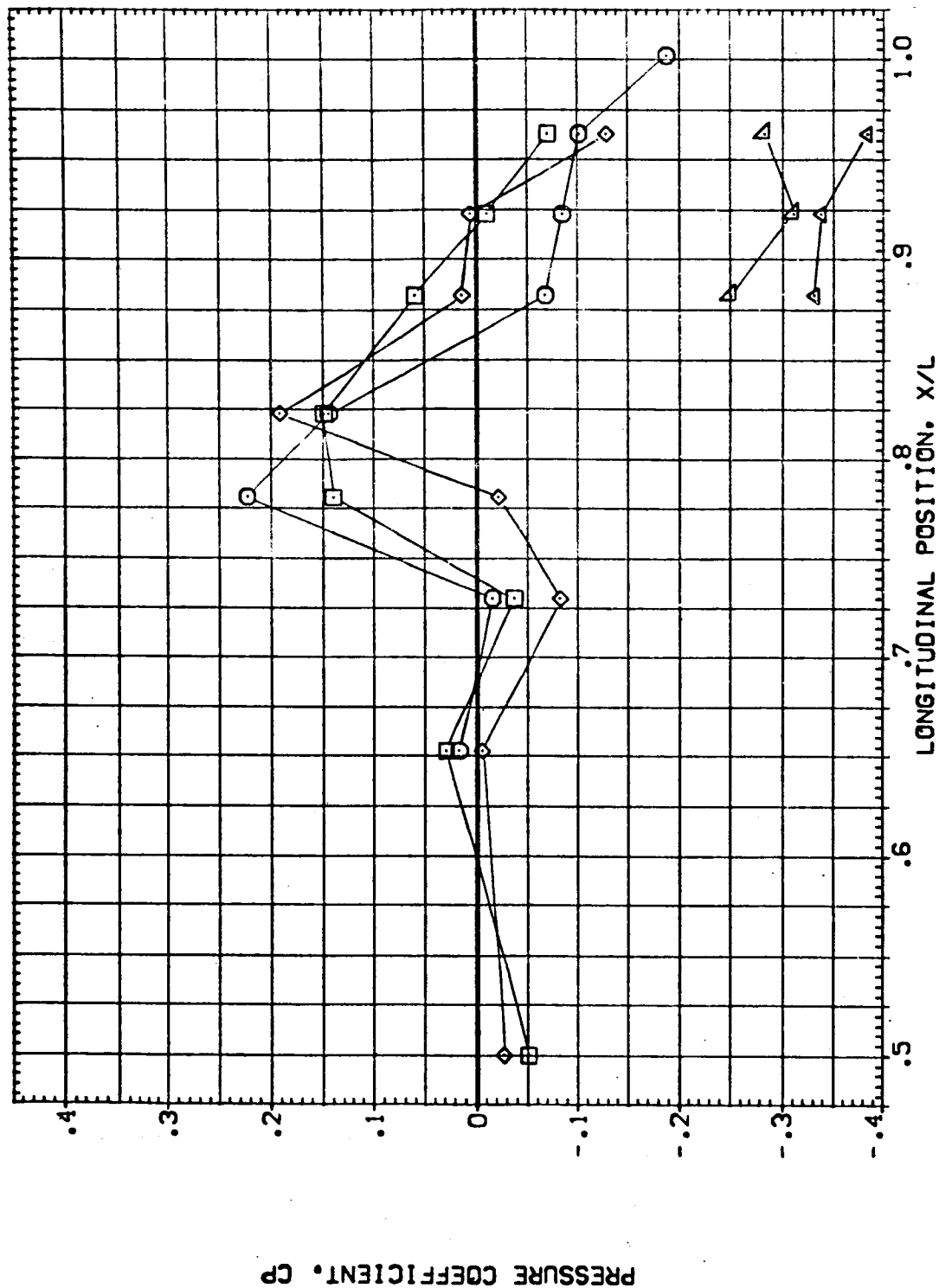


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB04)

Symbol	PHI	BETA	ALPHA	ELV-19	RUDER	GIMBAL	ELV-09	MACH
○	180.000	.000	.000	8.000	.000	1.000	4.000	1.400
□	195.000							
◇	210.000							
△	225.000							
▽	240.000							

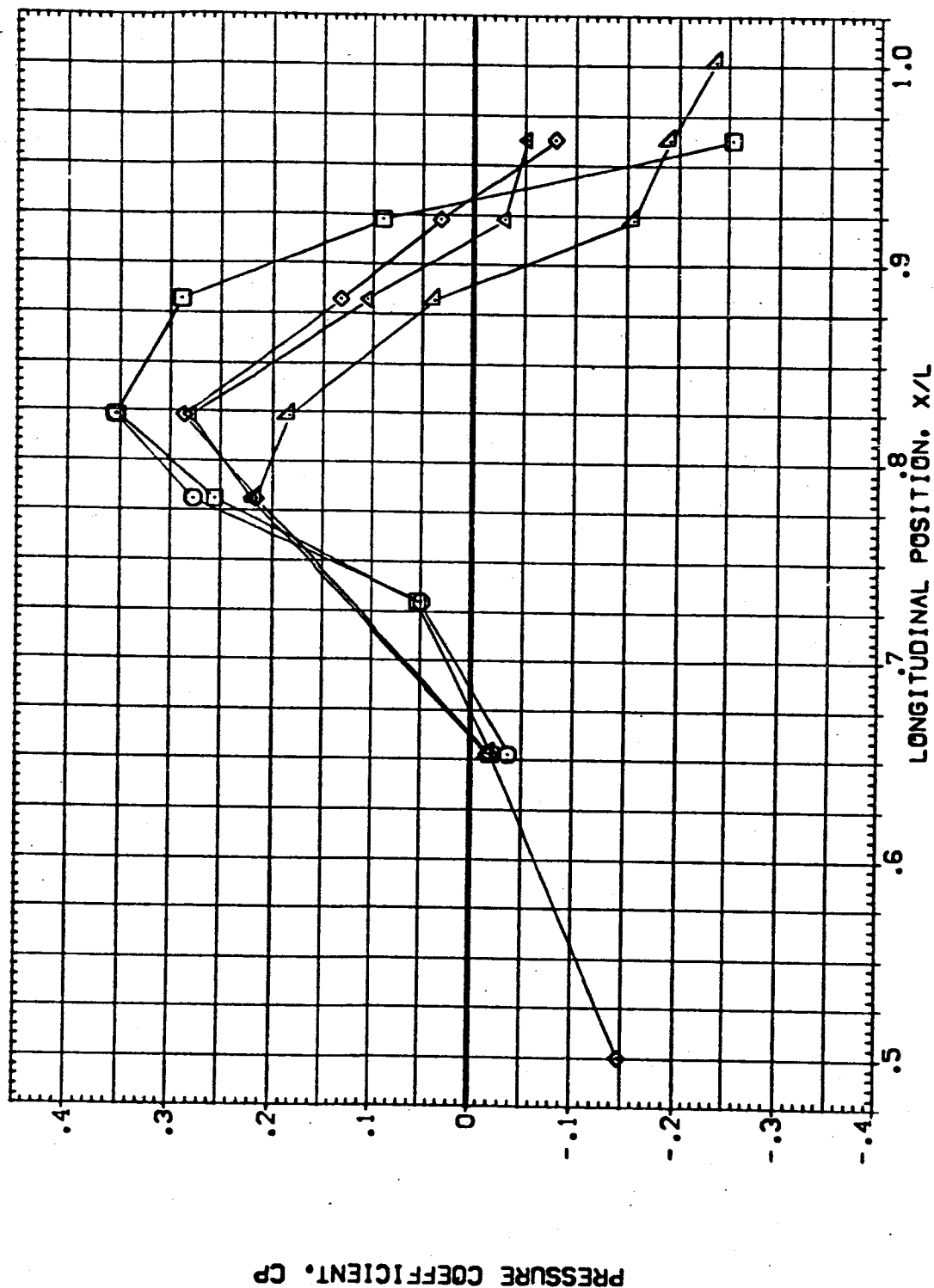


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	255.000	.000	.000	RUDDER	8.000	1.000	4.000
□	270.000			GIMBAL	.000		1.400
◇	290.000						
△	320.000						
▽	360.000						

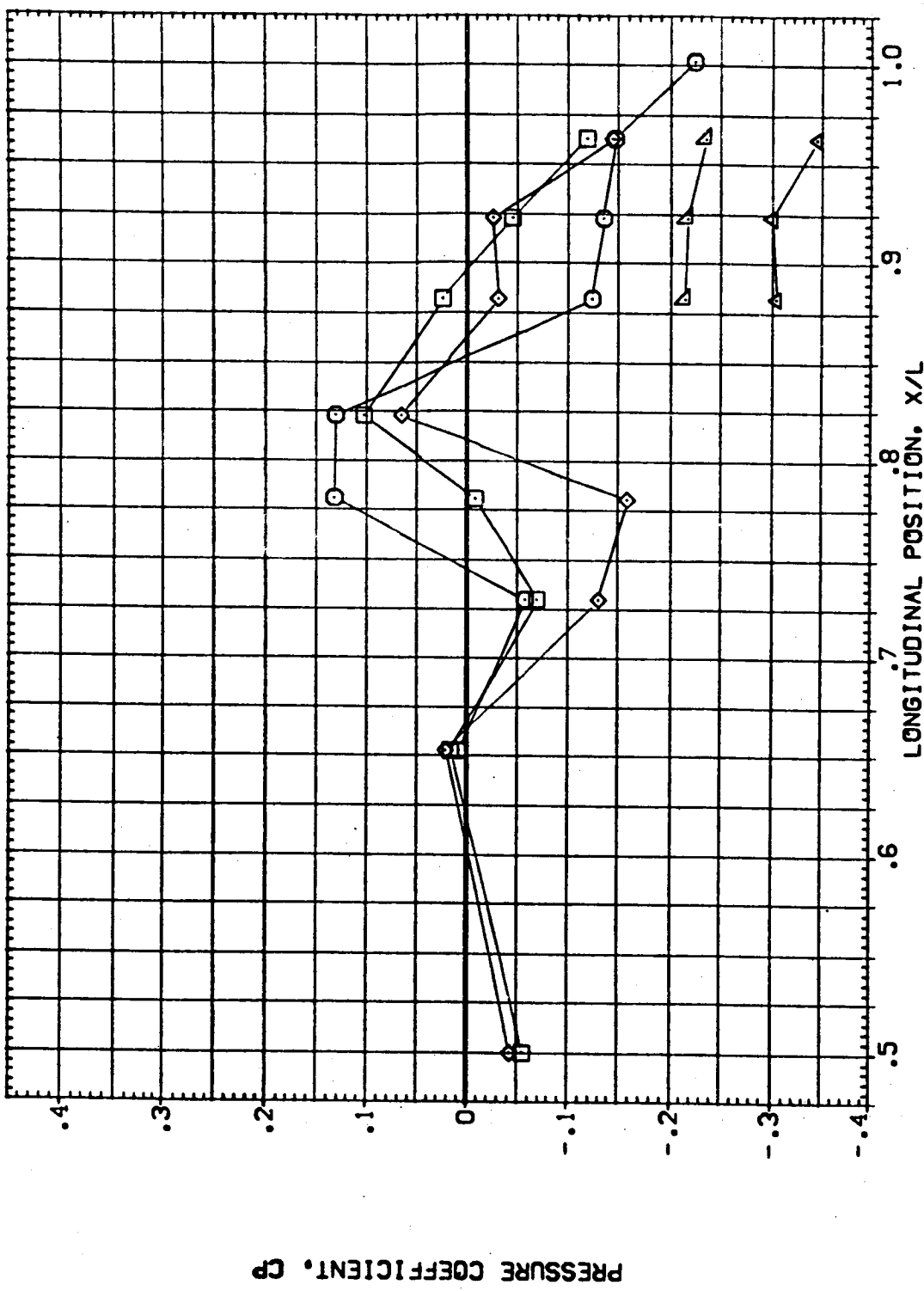


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (BEUB04)

SYMBOL PHI BETA ALPHA

□	180.000	.000	4.000
◇	195.000		
△	210.000		
▽	225.000		
◊	240.000		

PARAMETRIC VALUES

ELV-18	ELV-08
RUDER	MACH
GIMBAL	1.000
	4.000
	1.400

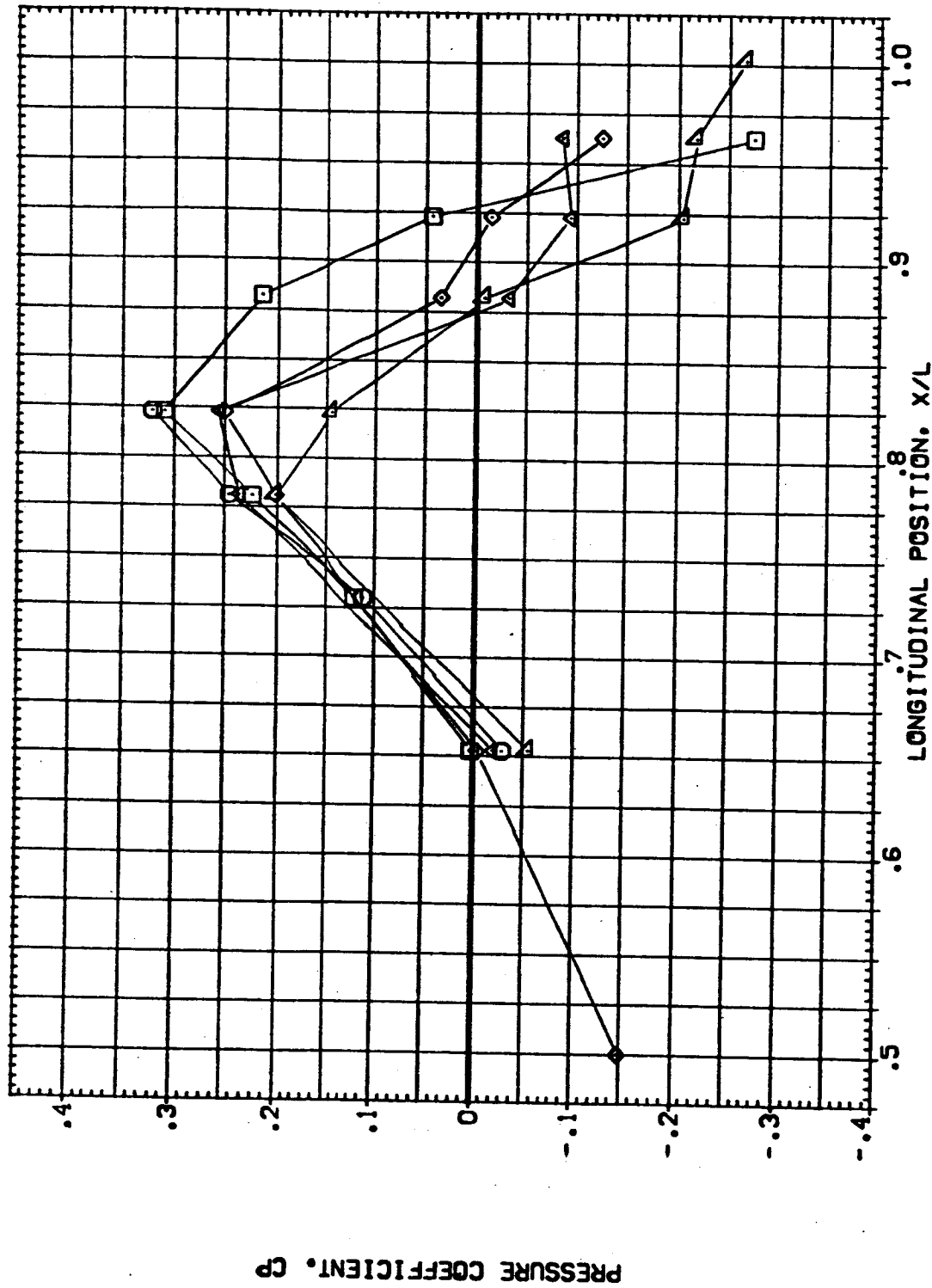


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY(BEUB04)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
○	255.000	.000	4.000	RUDER	.000	1.000	1.400
□	270.000			STRUT			
◇	290.000						
△	320.000						
▽	360.000						

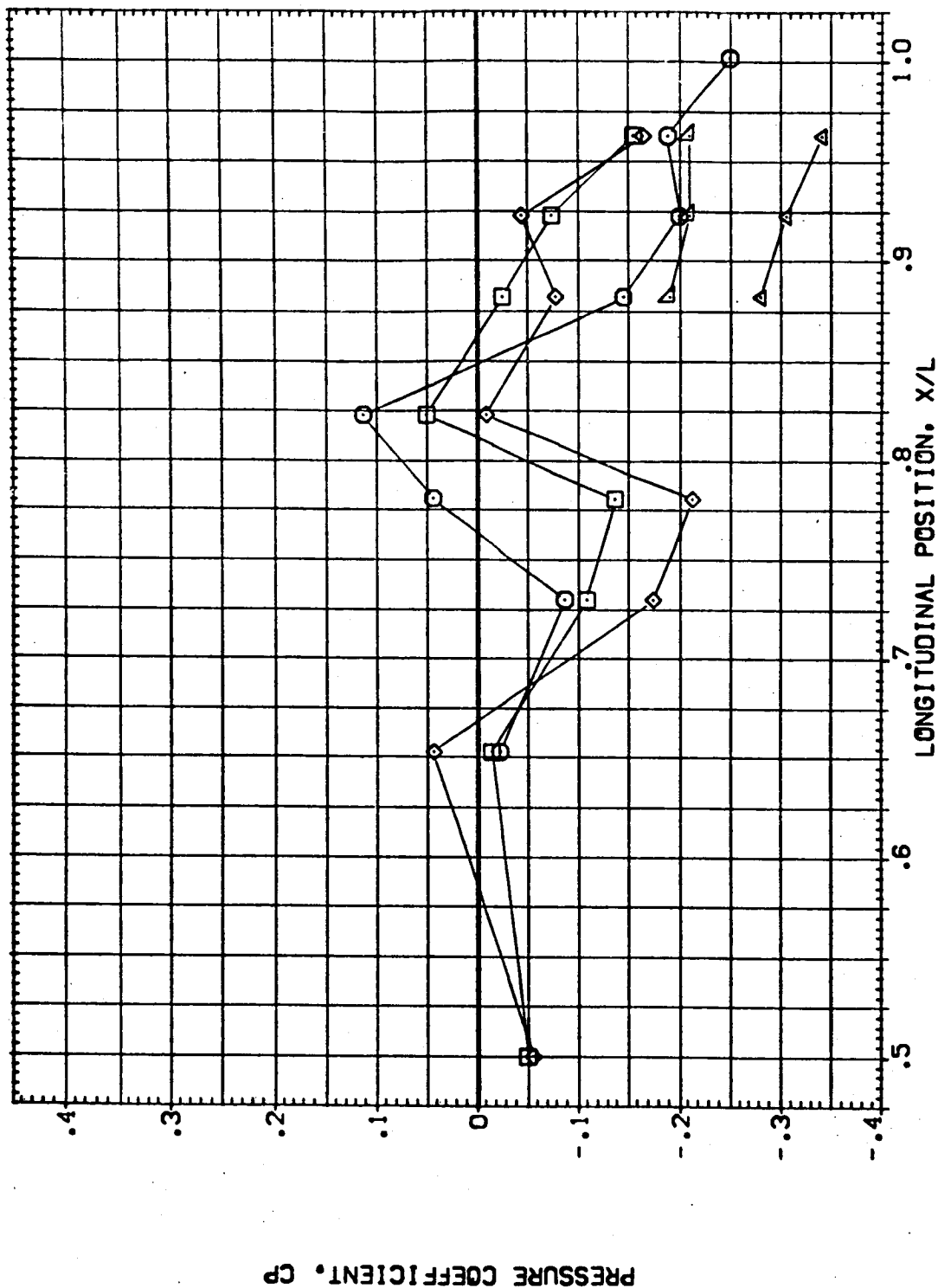


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB04)

SYMBOL PHI BETA ALPHA

○ 180.000 -1.000 .000

□ 195.000 .000

◇ 210.000 .000

△ 225.000 .000

▽ 240.000 .000

PARAMETRIC VALUES

ELV-18 9.000 ELV-08 4.000

RUDER .000 MACH 1.400

GIMBAL 1.000

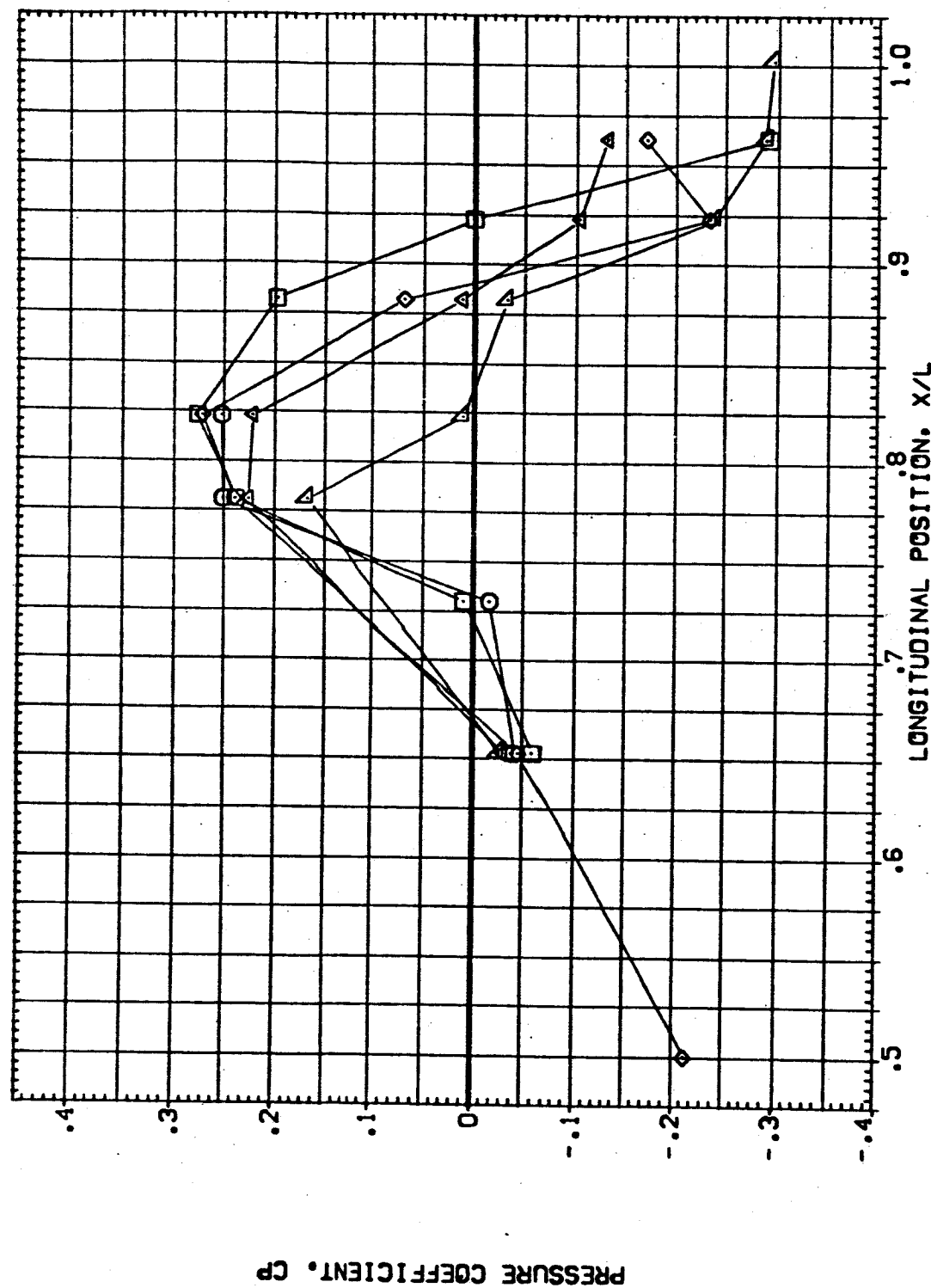


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB04)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	255.000	-4.000	.000	RUDDER			
□	270.000			GIMBAL			
◇	290.000						
△	320.000						
▽	360.000						

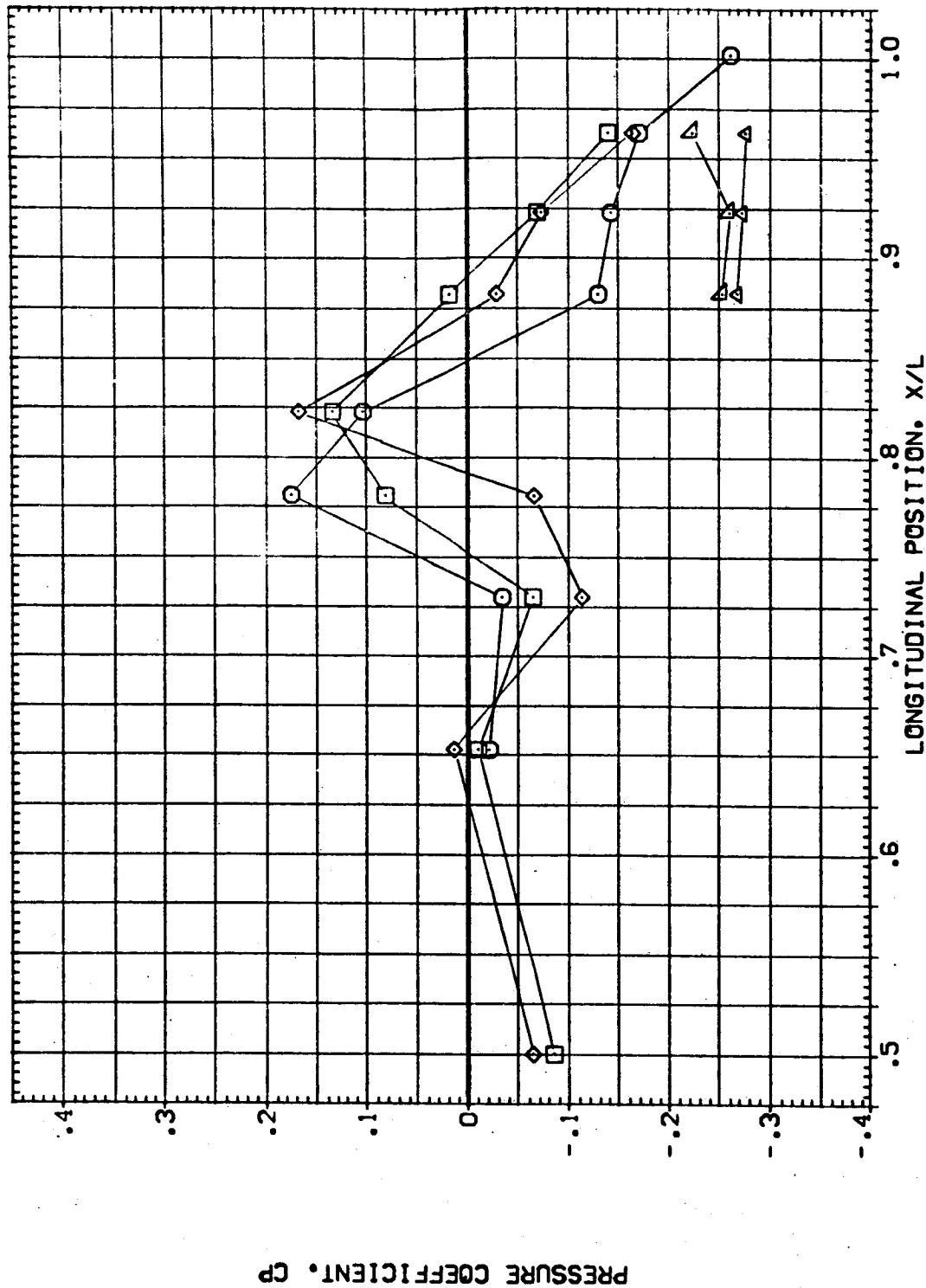


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB04)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
□	180.000	4.000	.000	8.000	8.000	1.000	4.000
◇	195.000			RUDDER			1.400
△	210.000			GIMBAL			
▽	225.000						
▽	240.000						

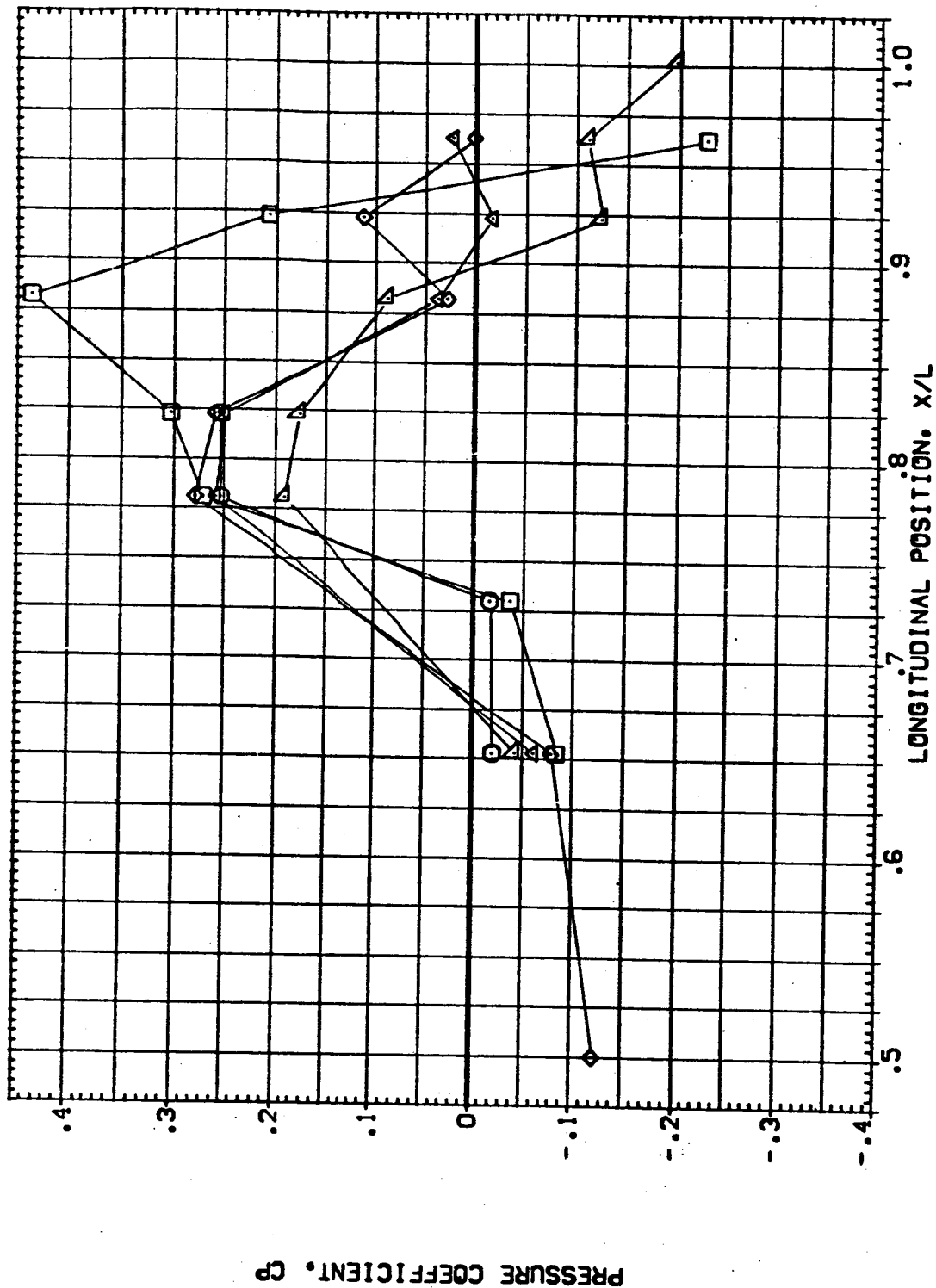


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF ORB BODY (CEUB04)

SYMBO:
 255,000
 270,000
 290,000
 320,000
 360,000

BETA 4.000
 ALPHA .000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

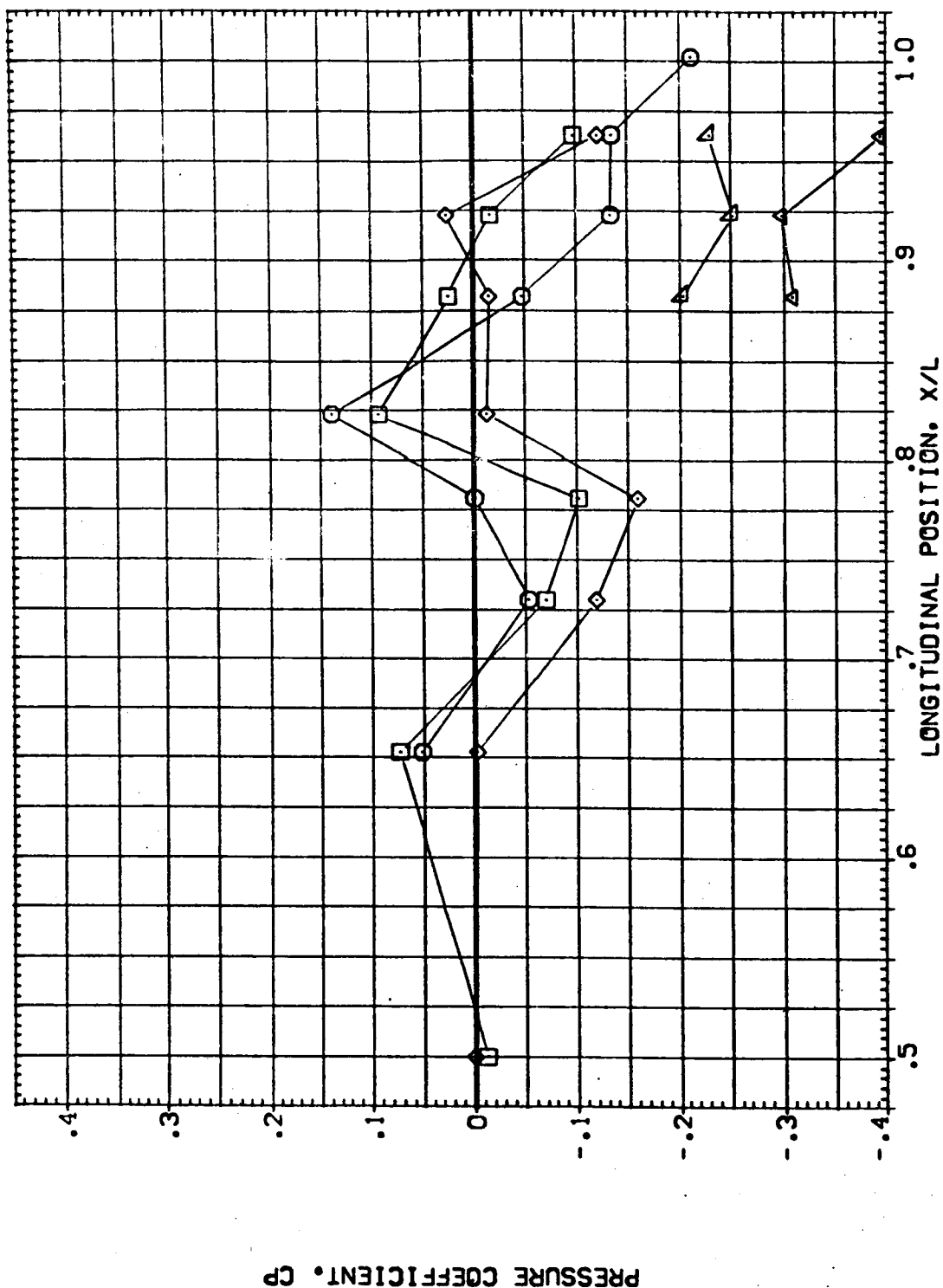


FIG. 90 ORBITER FUSELAGE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB05)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	180.000	.000	-1.000	RUDER	.000	1.000	4.000
□	195.000			GIMBAL			.900
◇	210.000						
△	225.000						
▽	240.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

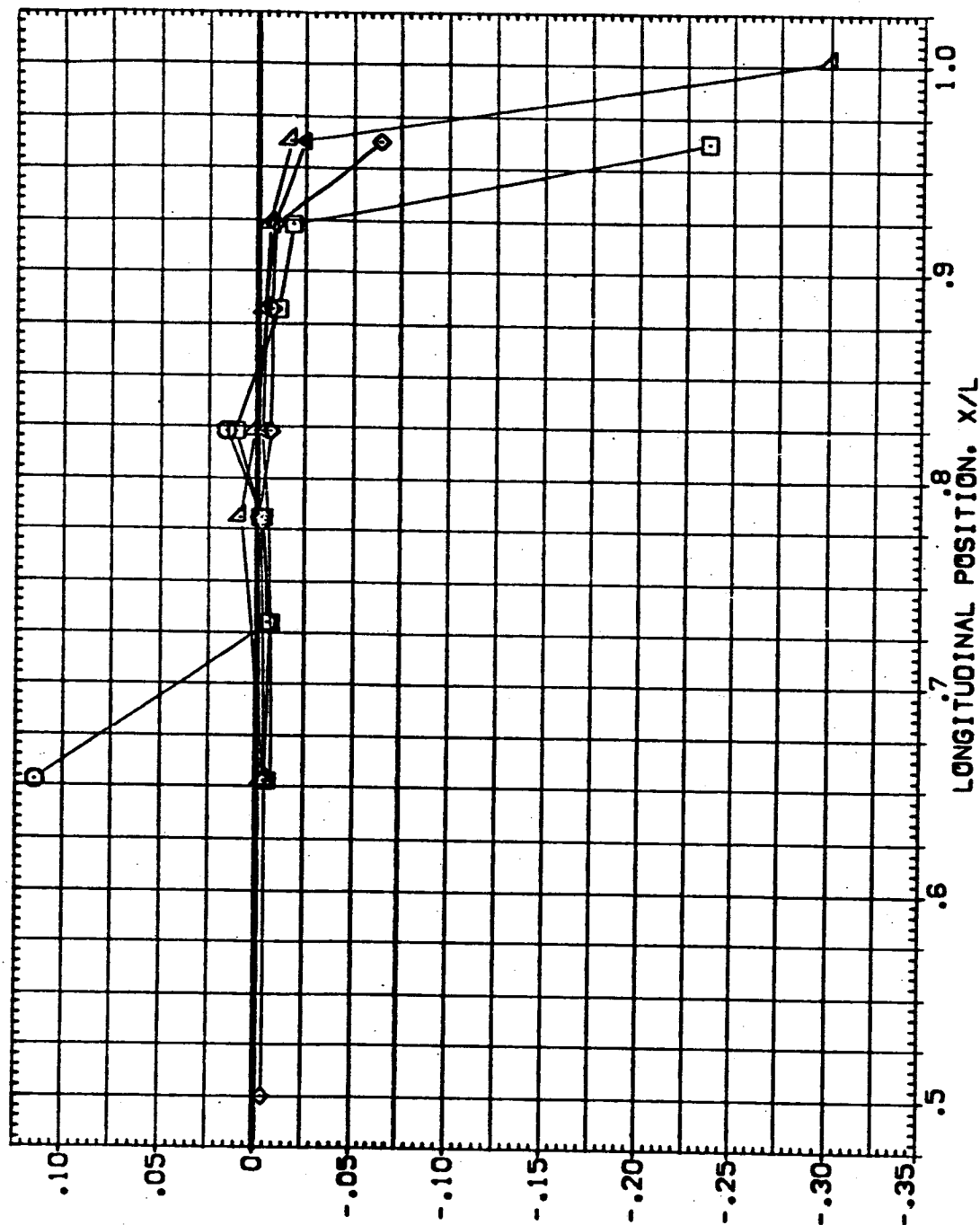


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL
 RH BETA ALPHA
 255.000 .000 -4.000
 270.000
 290.000
 320.000
 360.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

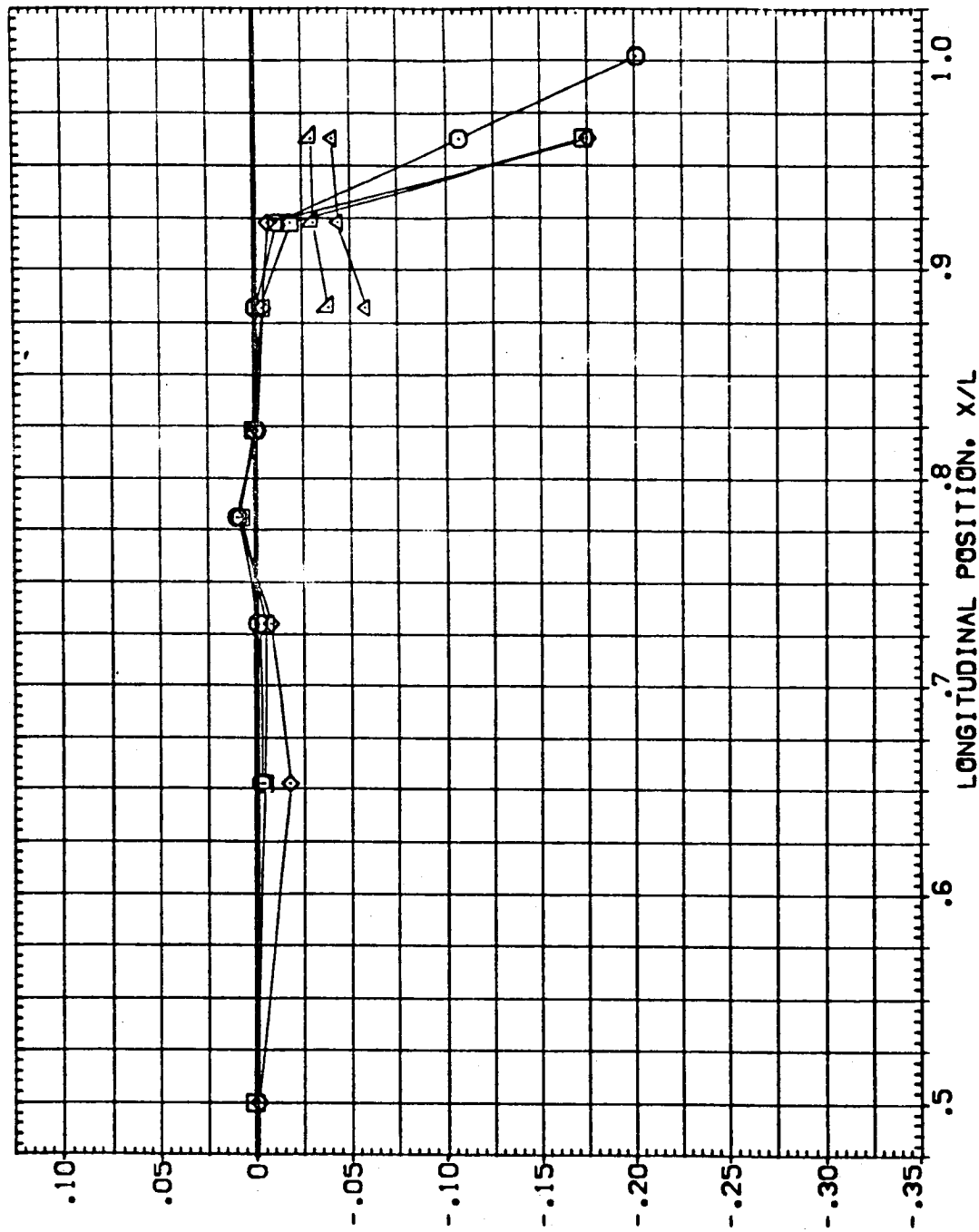


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB05)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL PHI BETA ALPHA
 180.000
 195.000
 210.000
 225.000
 240.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

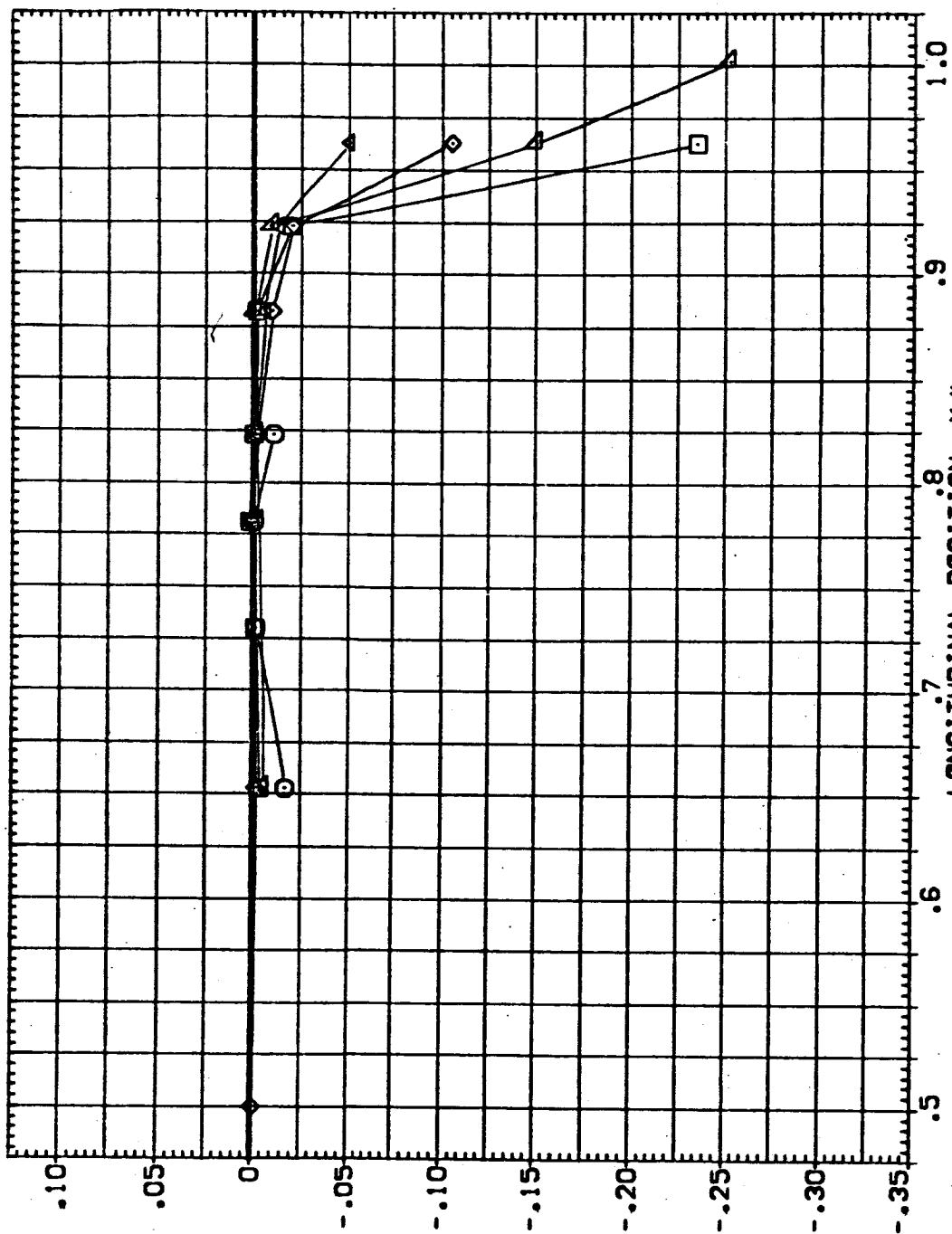


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES
○	255.000	.000	.000	ELV-18 9.000 ELV-08 4.000
□	270.000			RUDER .000 MACH .900
◇	290.000			GIMBAL 1.000
△	320.000			
▽	360.000			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

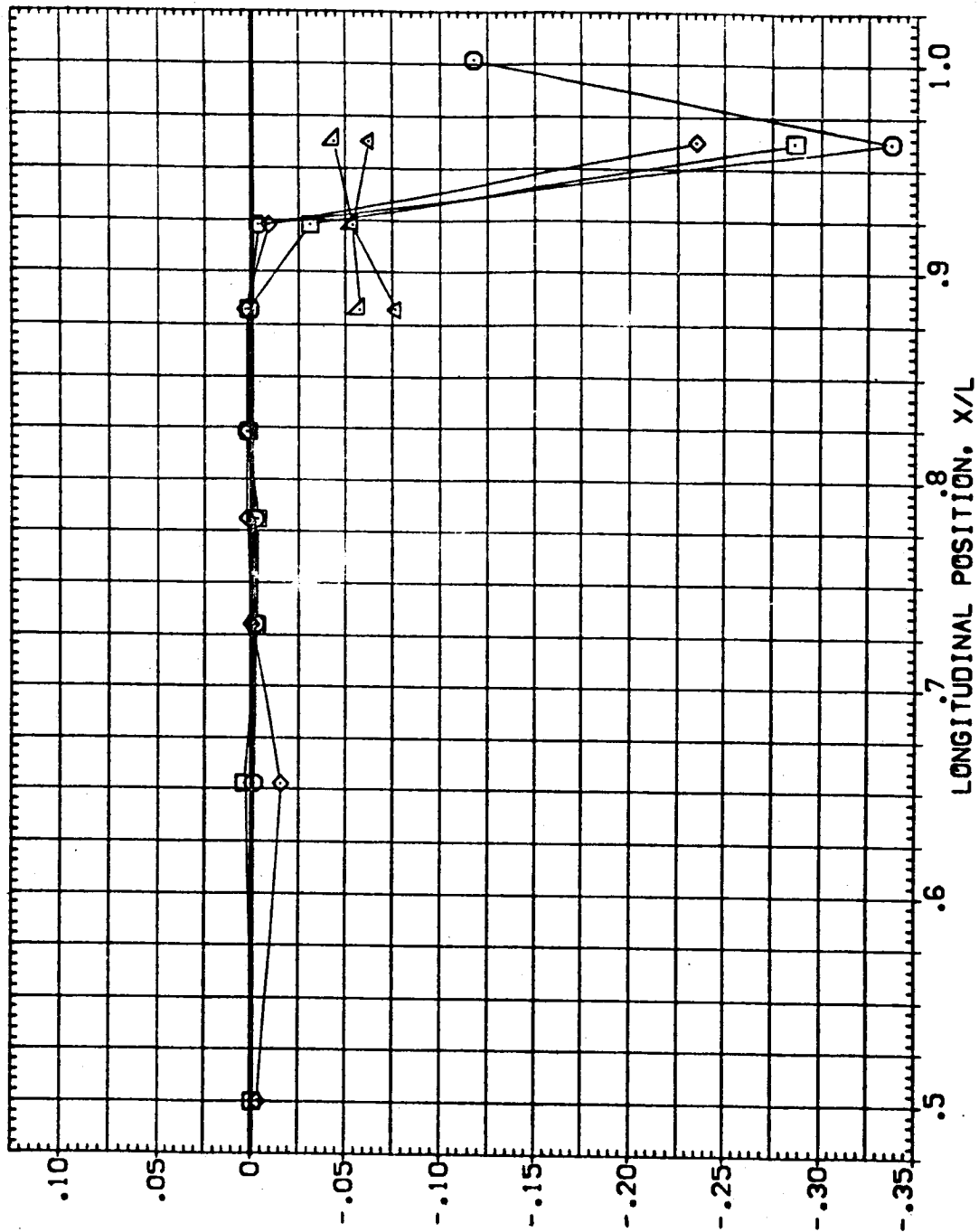


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB05)

SYMBOL
 180.000
 195.000
 210.000
 225.000
 240.000

BETA .000 ALPHA 4.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

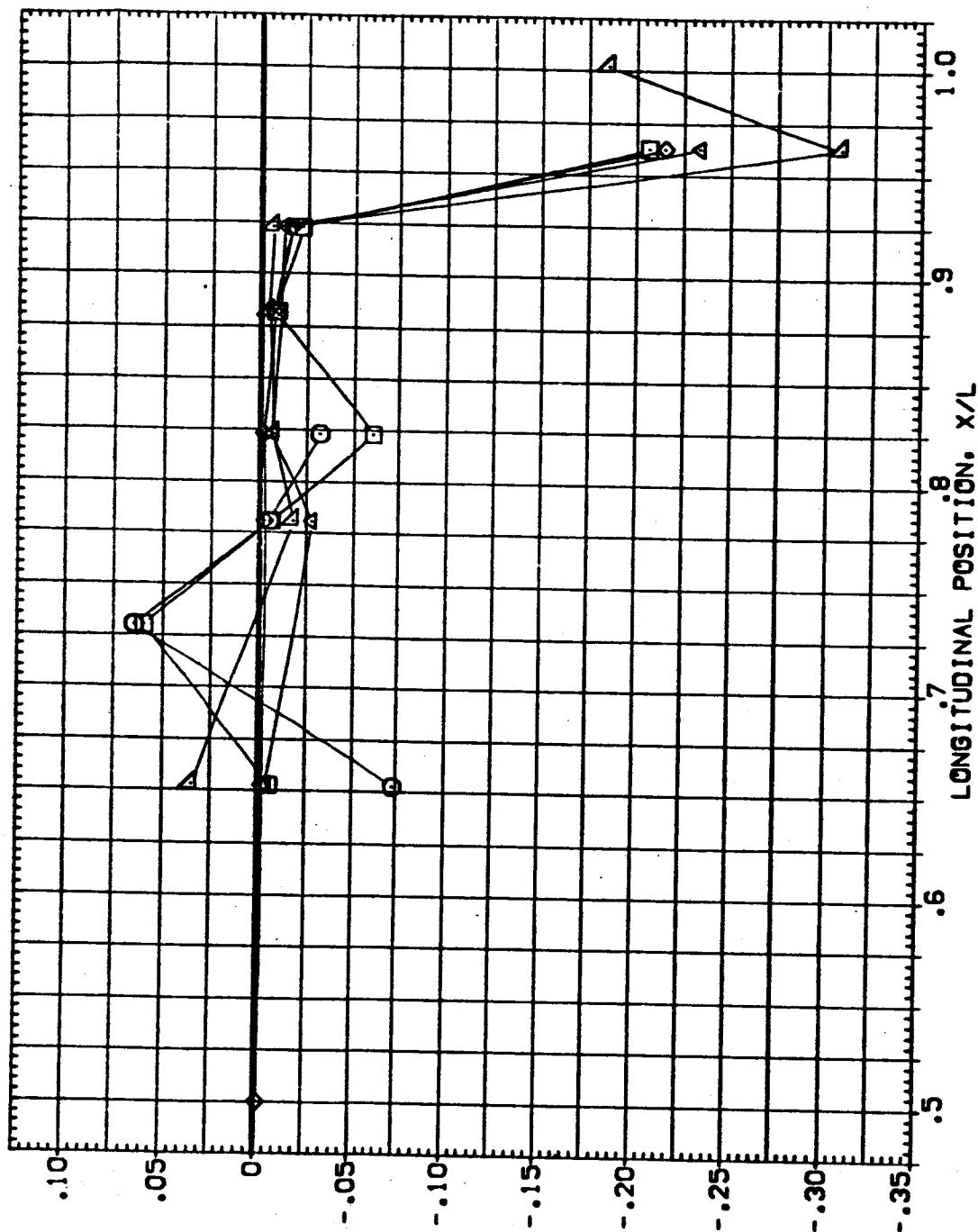


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY(EUB05)

PHI	BETA	ALPHA	ELV-18	ELV-08
255.000	.000	4.000	8.000	8.000
270.000			RUDER	MACH
290.000			GIMBAL	1.000
320.000				
360.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

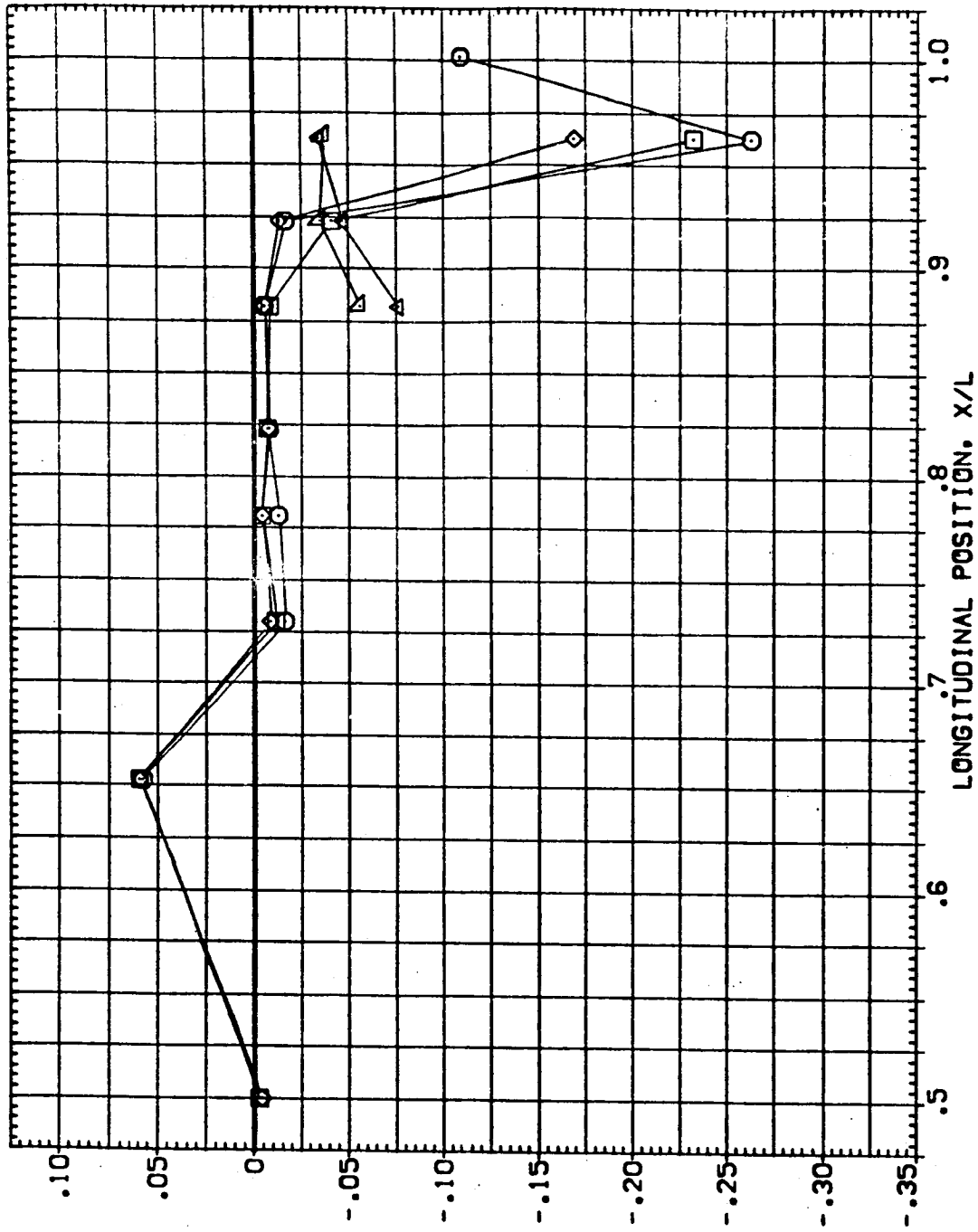


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

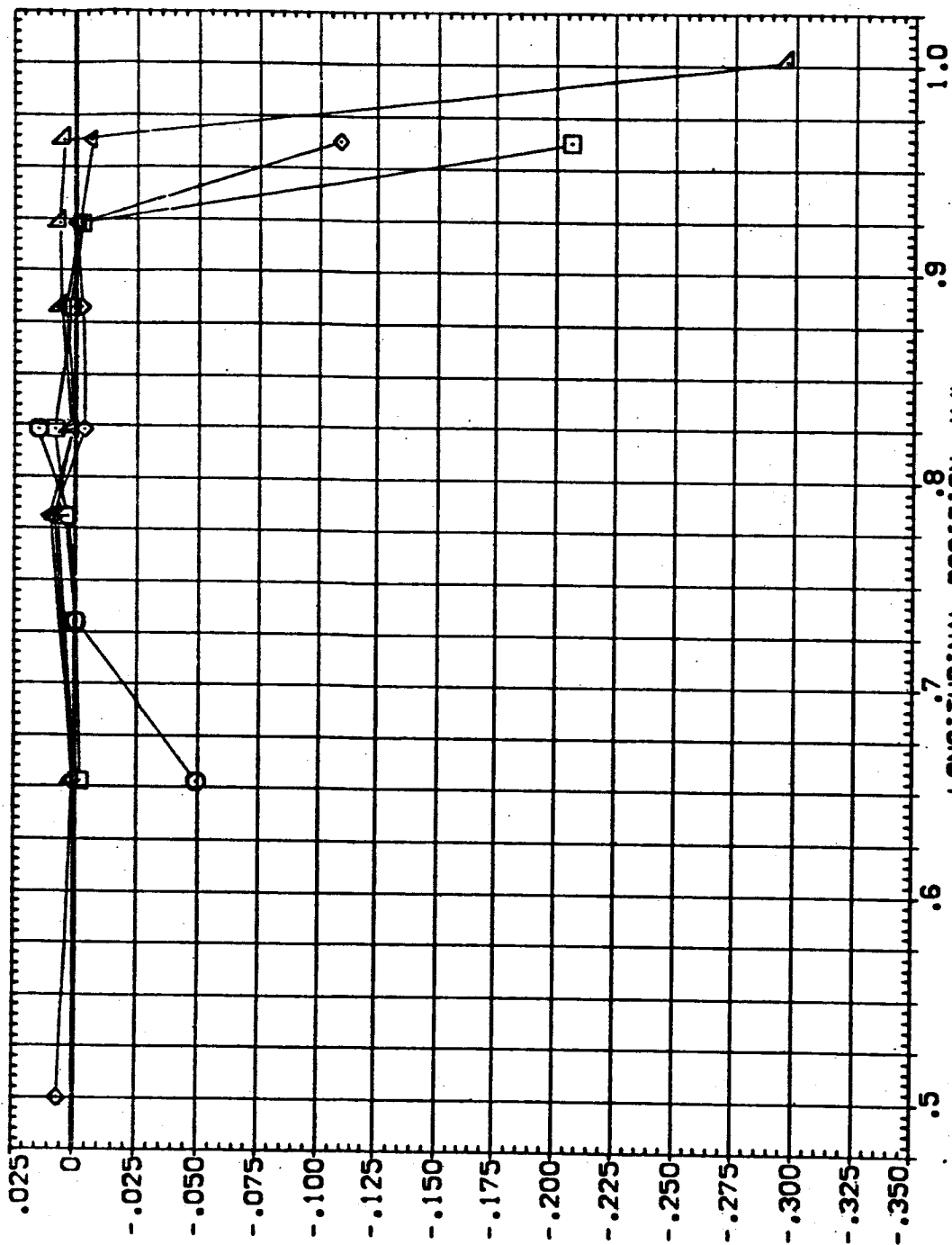
ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB05)

PHI 180.000
195.000
210.000
225.000
240.000

BETA -4.000
ALPHA .000

ELV-18 9.000
ELV-08 .000
RUDDER 1.000
GIMBAL 4.000
MACH .900

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP



LONGITUDINAL POSITION, X/L

FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL	PHI	BETA	ALPHA	ELV-18	ELV-08	PARAMETRIC VALUES
○	255.000	-4.000	.000	RUDER	.000	MACH
□	270.000			GIMBAL	1.000	
◇	290.000					
△	320.000					
▽	360.000					

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

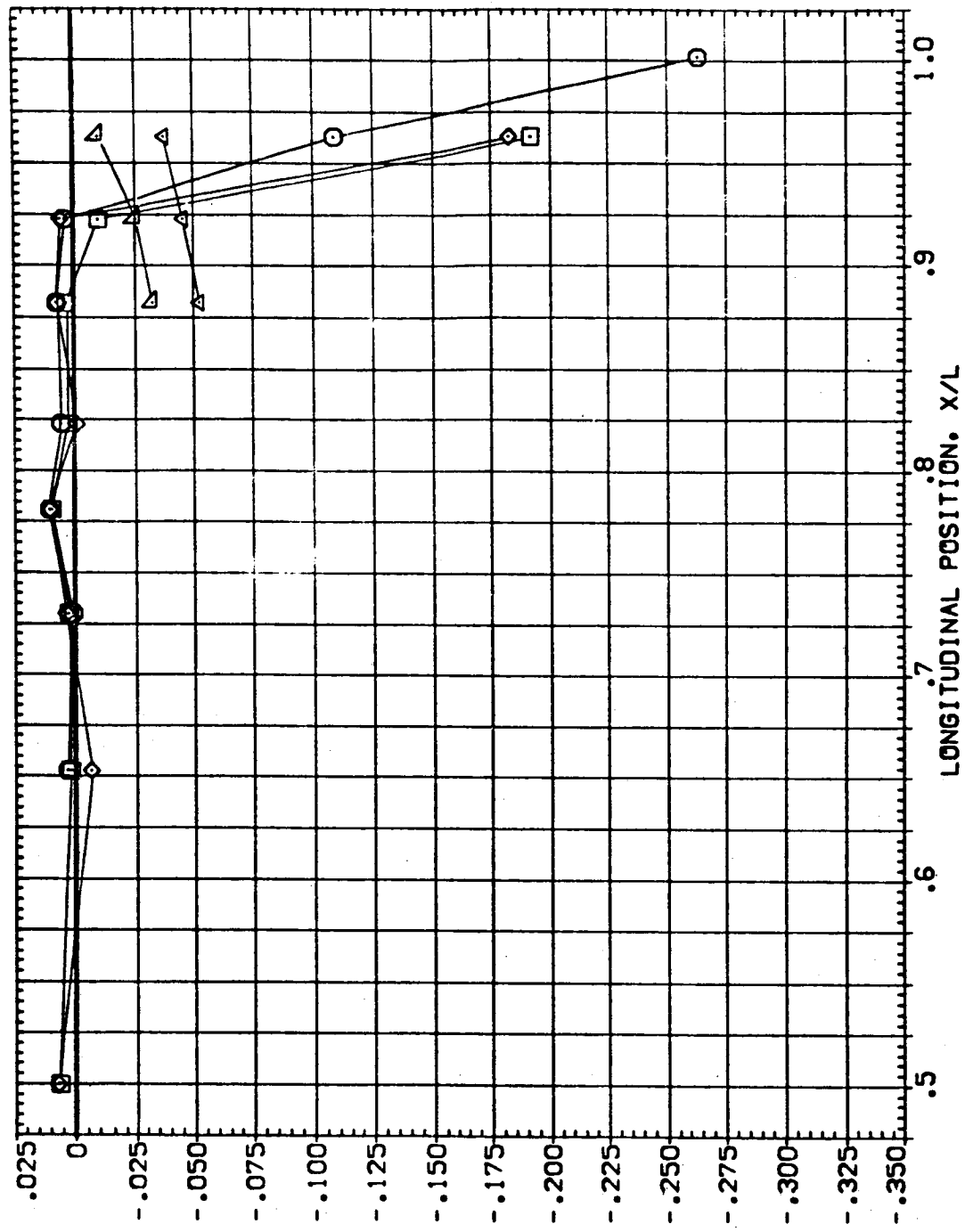


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY(FEUB05)

SYMBOL	PHI	BETA	ALPHA	ELV-18	ELV-08
□	180.000	4.000	.000	RUDER	MACH
◇	195.000			GIMBAL	
△	210.000				
▽	225.000				
▽	240.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

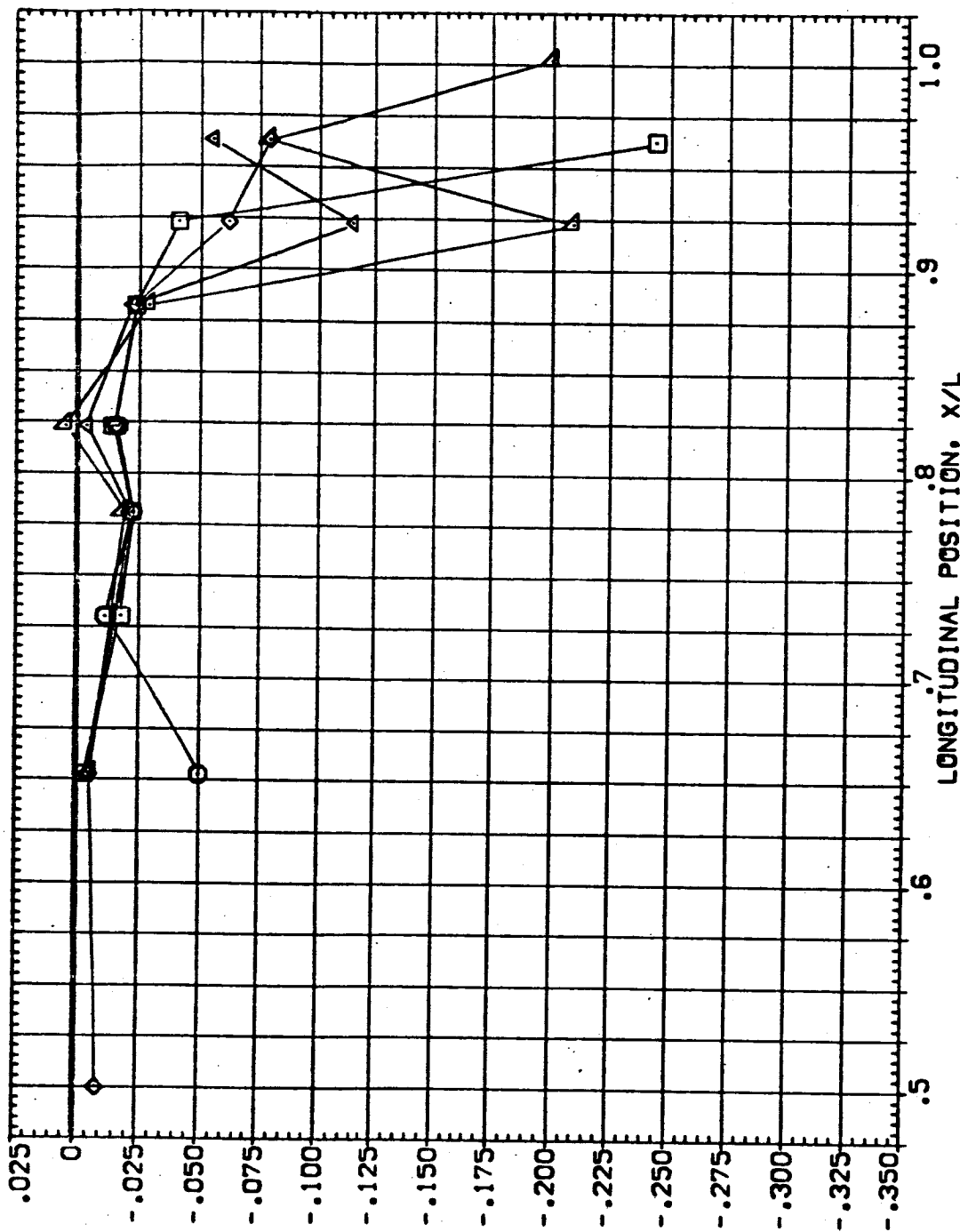


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB05)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

PHI BETA ALPHA
 255.000 4.000 .000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ○ □ ◇ △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

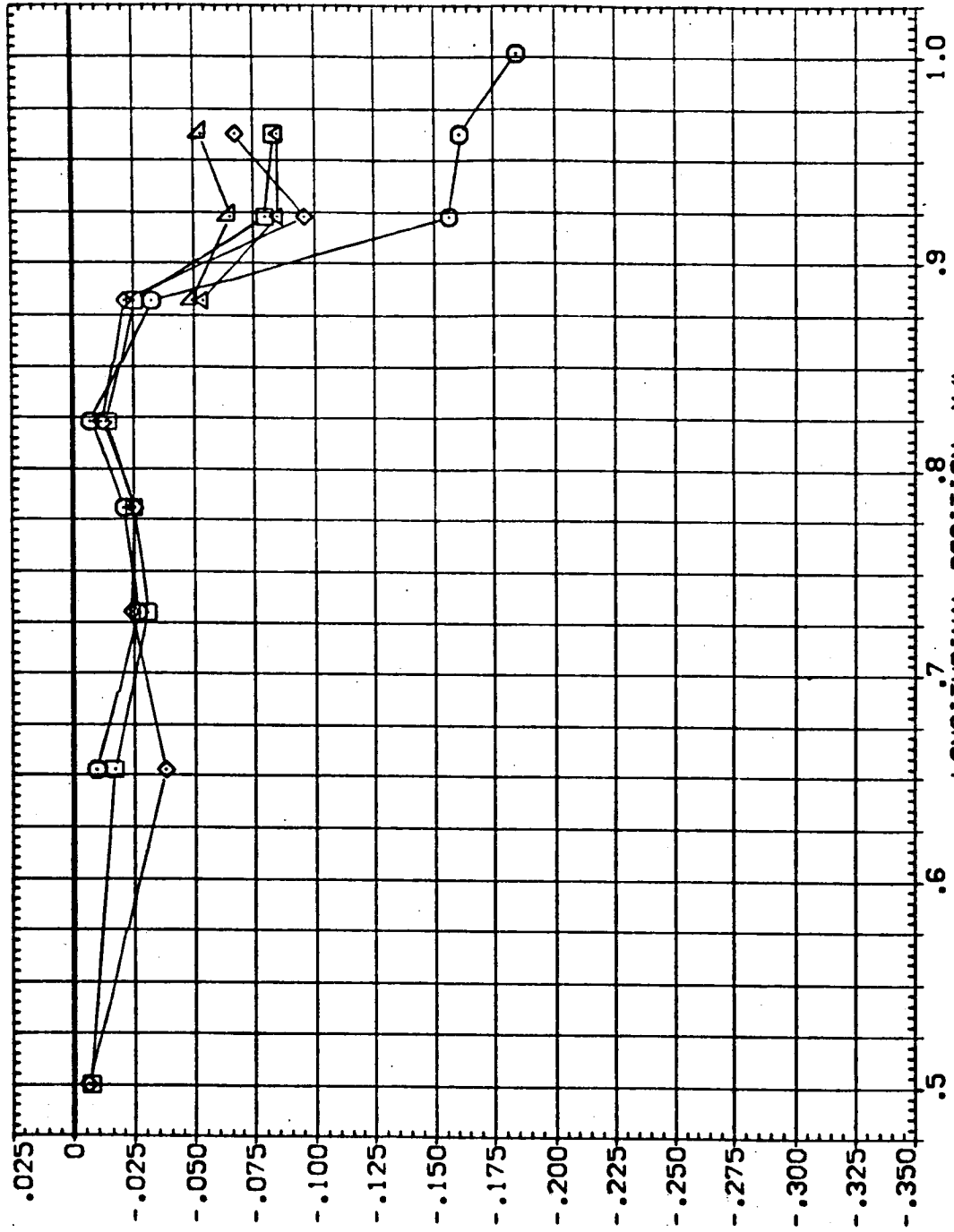


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB06)

PARAMETRIC VALUES	ELV-08	ELV-08	ELV-08
ELV-18	8.000	8.000	4.000
RUDER	.000	.000	1.100
SIMBAL	1.000	1.000	

PARAMETRIC VALUES	ELV-08	ELV-08	ELV-08
ELV-18	8.000	8.000	4.000
RUDER	.000	.000	1.100
SIMBAL	1.000	1.000	

PARAMETRIC VALUES	ELV-08	ELV-08	ELV-08
ELV-18	8.000	8.000	4.000
RUDER	.000	.000	1.100
SIMBAL	1.000	1.000	

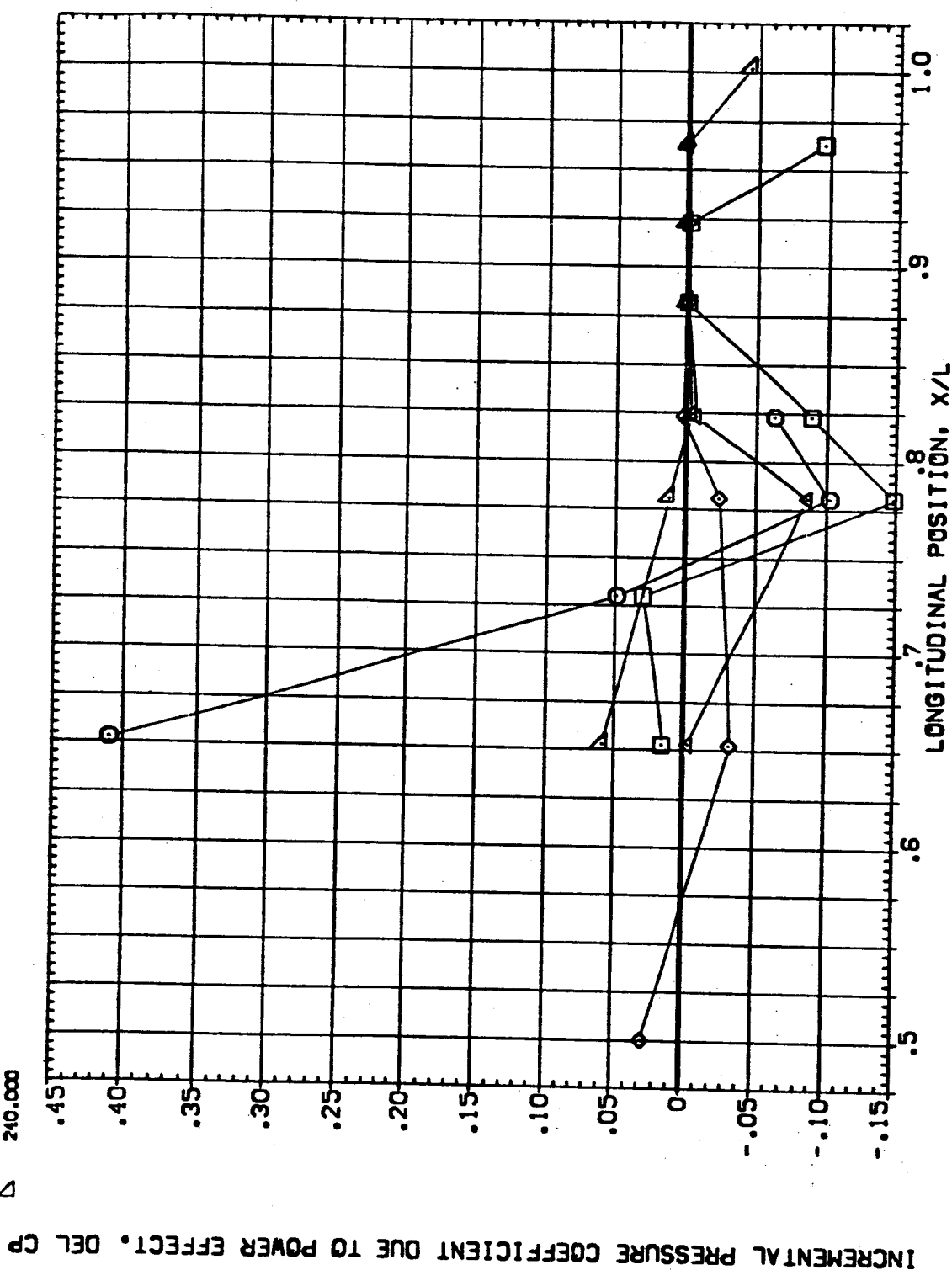


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES		
	255.000	.000	-4.000	ELV-18	8.000	ELV-08
	270.000			RUDER	.000	MACH
	290.000			GIMBAL	1.000	
320.000						
360.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

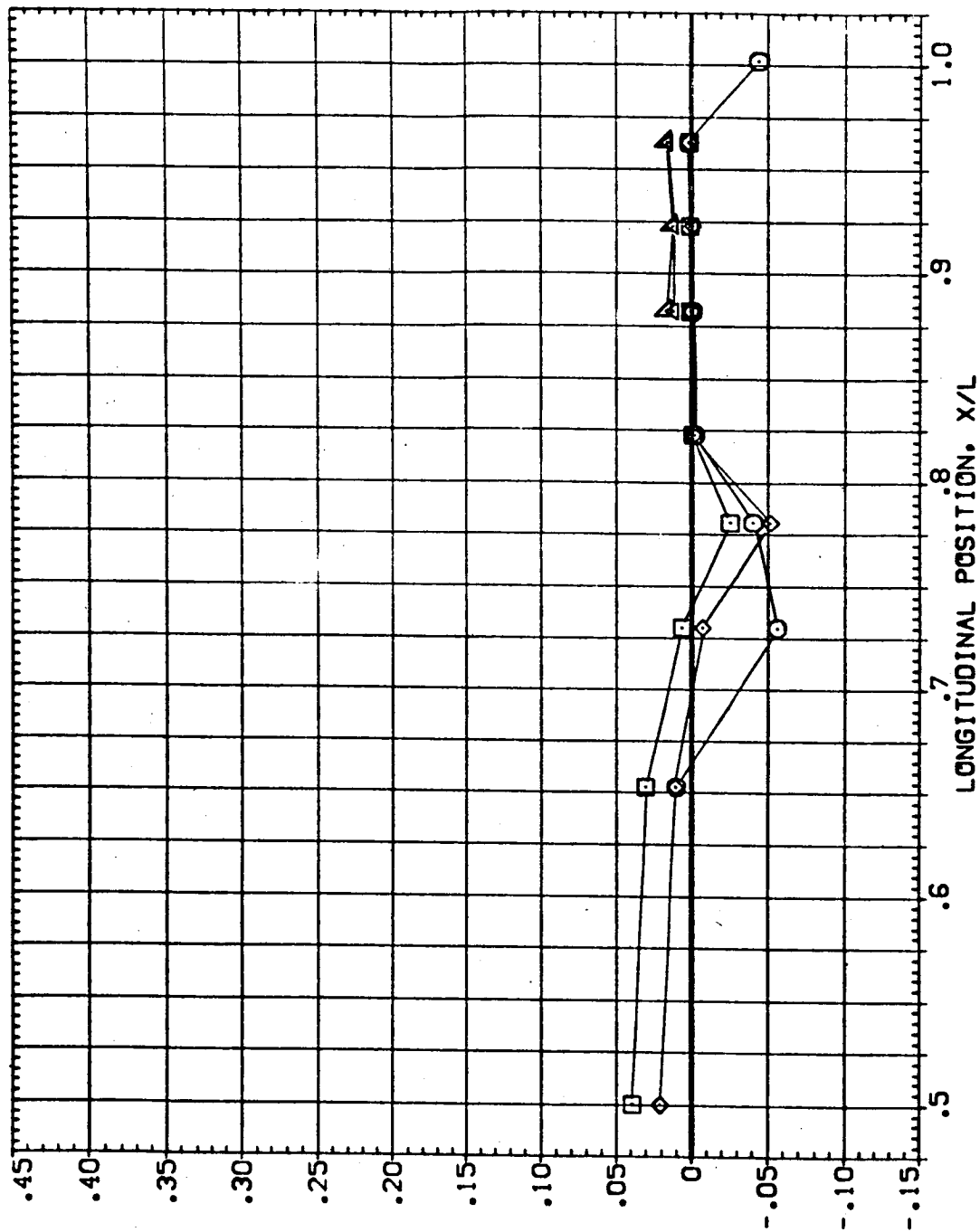


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB06)

PHI 160.000
195.000
210.000
225.000
240.000

BETA .000 .000

ALPHA .000

SYMBOL ∇ \square \diamond \circ

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000
RUDDER .000 MACH 1.100
GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

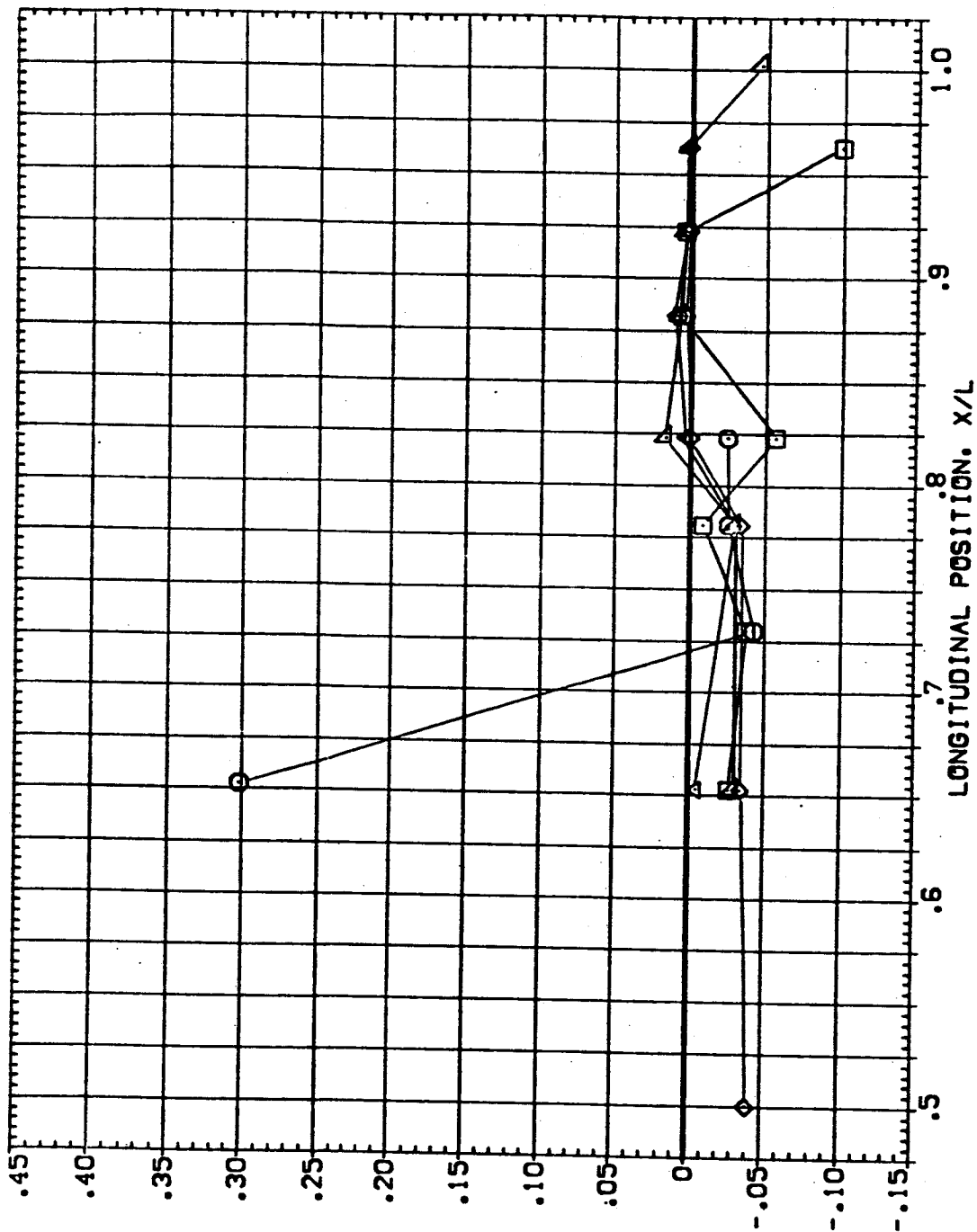


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

PHI BETA ALPHA
 255.000 .000 .000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ▽ ◊ ◻ ◴

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

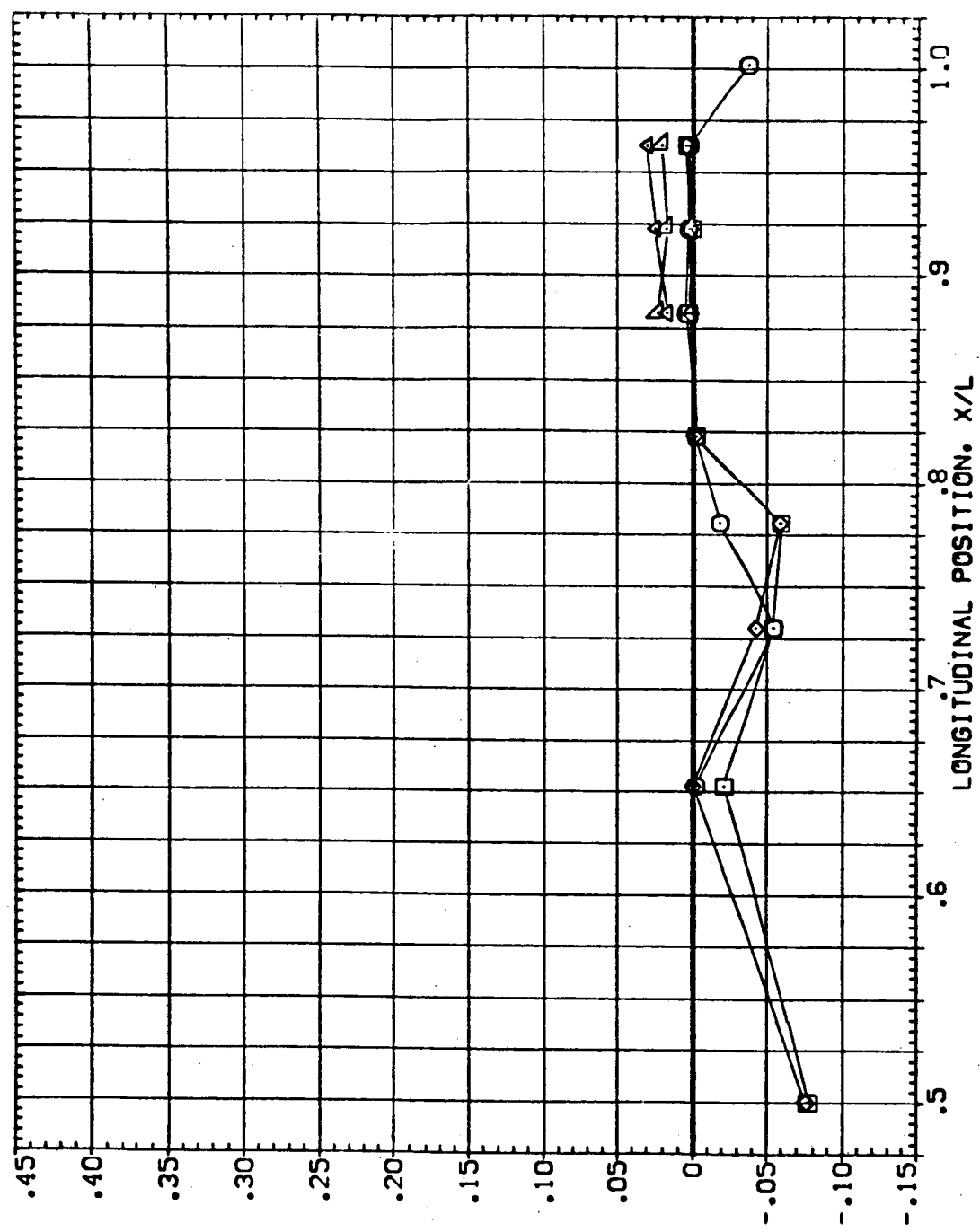


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB06)

SYMBOL PHI BETA ALPHA

○	180.000	.000	4.000
□	195.000		
◇	210.000		
△	225.000		
▽	240.000		

PARAMETRIC VALUES

ELV-18	8.000	ELV-08	4.000
RUDER	.000	MACH	1.100
GIMBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

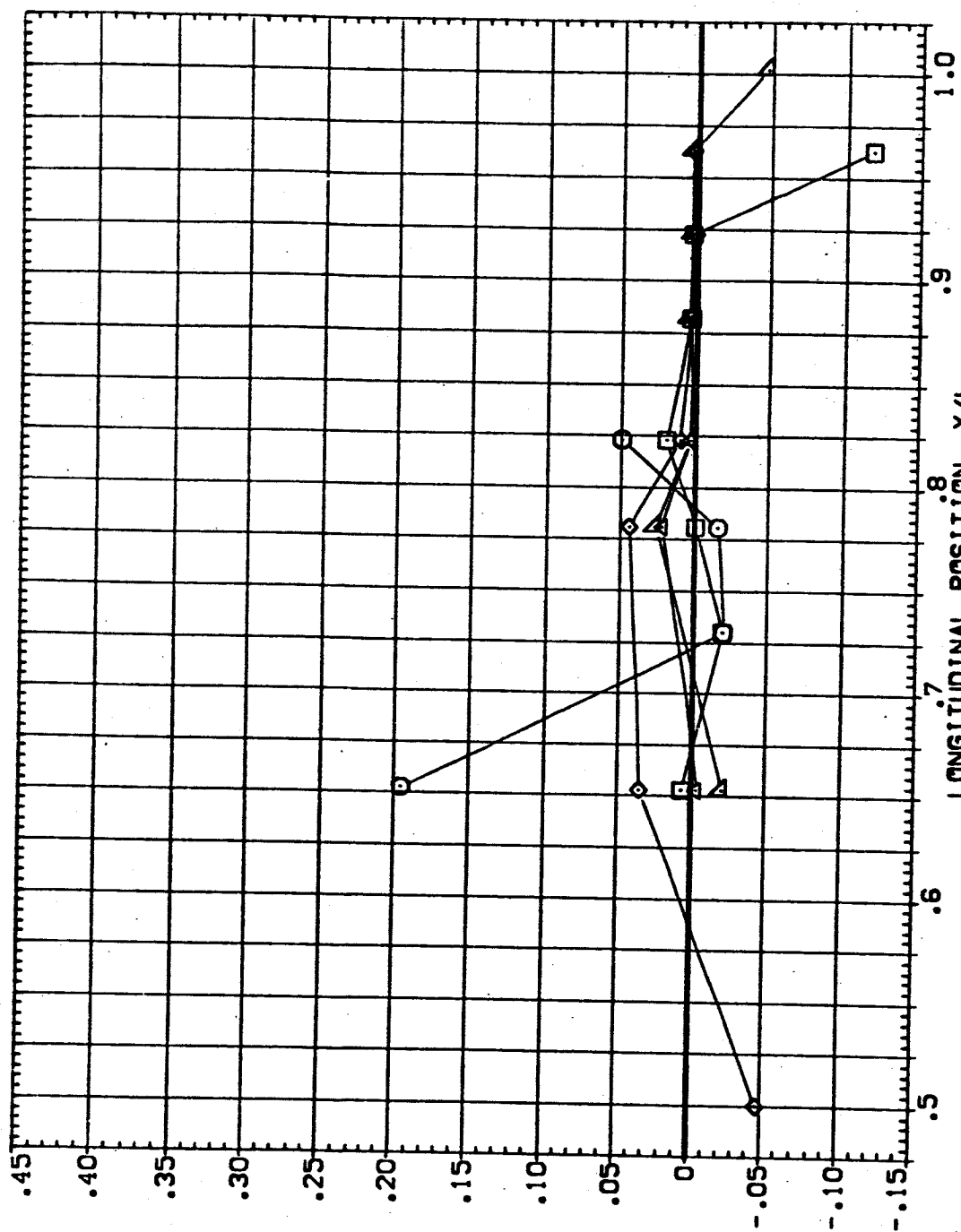


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY(EU806)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

PHI BETA ALPHA
 255.000 .000 4.000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ○ □ ◇ △ ▽

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

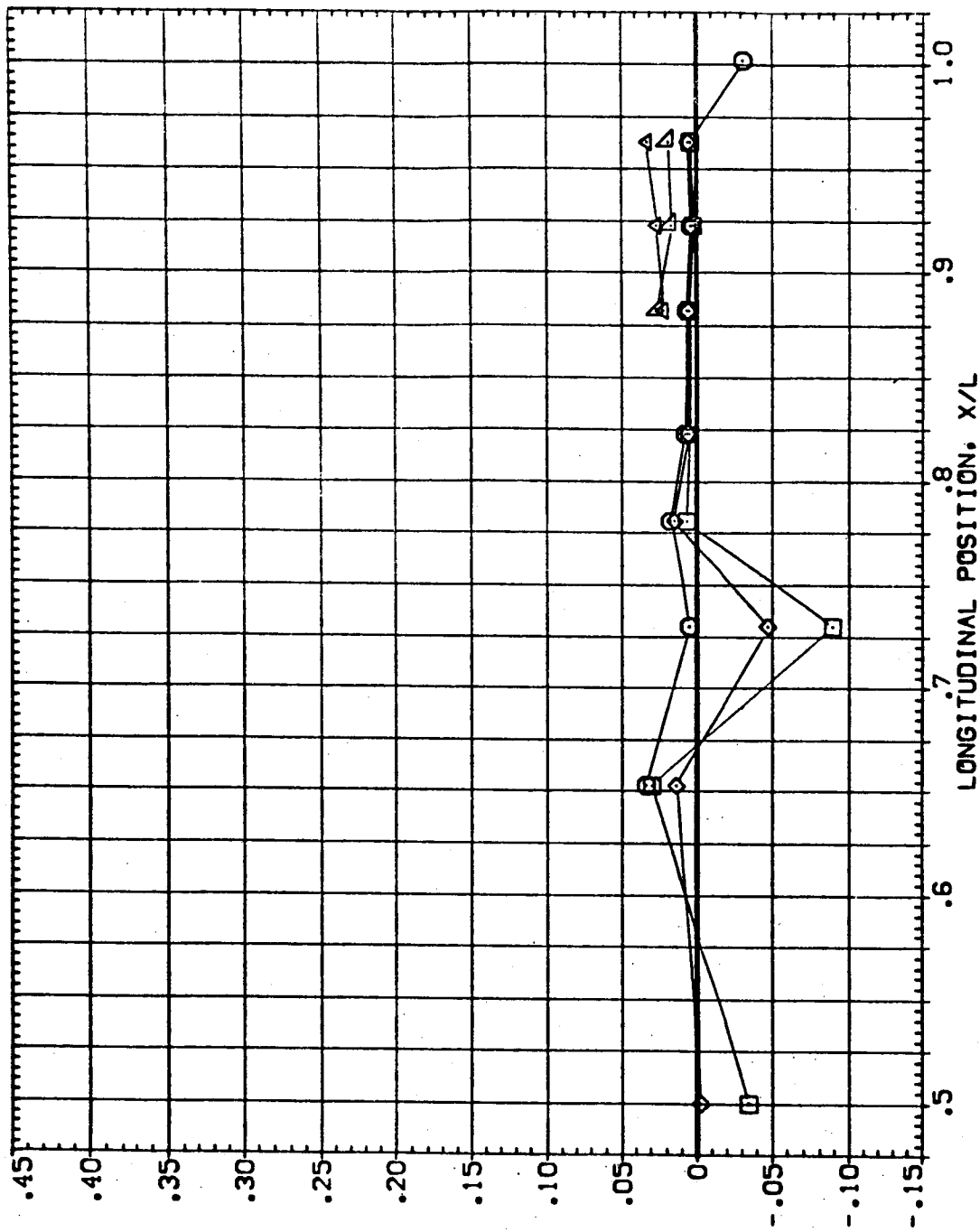


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB06)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	ELV-08
○	180.000	-1.000	.000	RUDER	.000	MACH	1.000
□	195.000			GIMBAL	1.000		
◇	210.000						
△	225.000						
▽	240.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

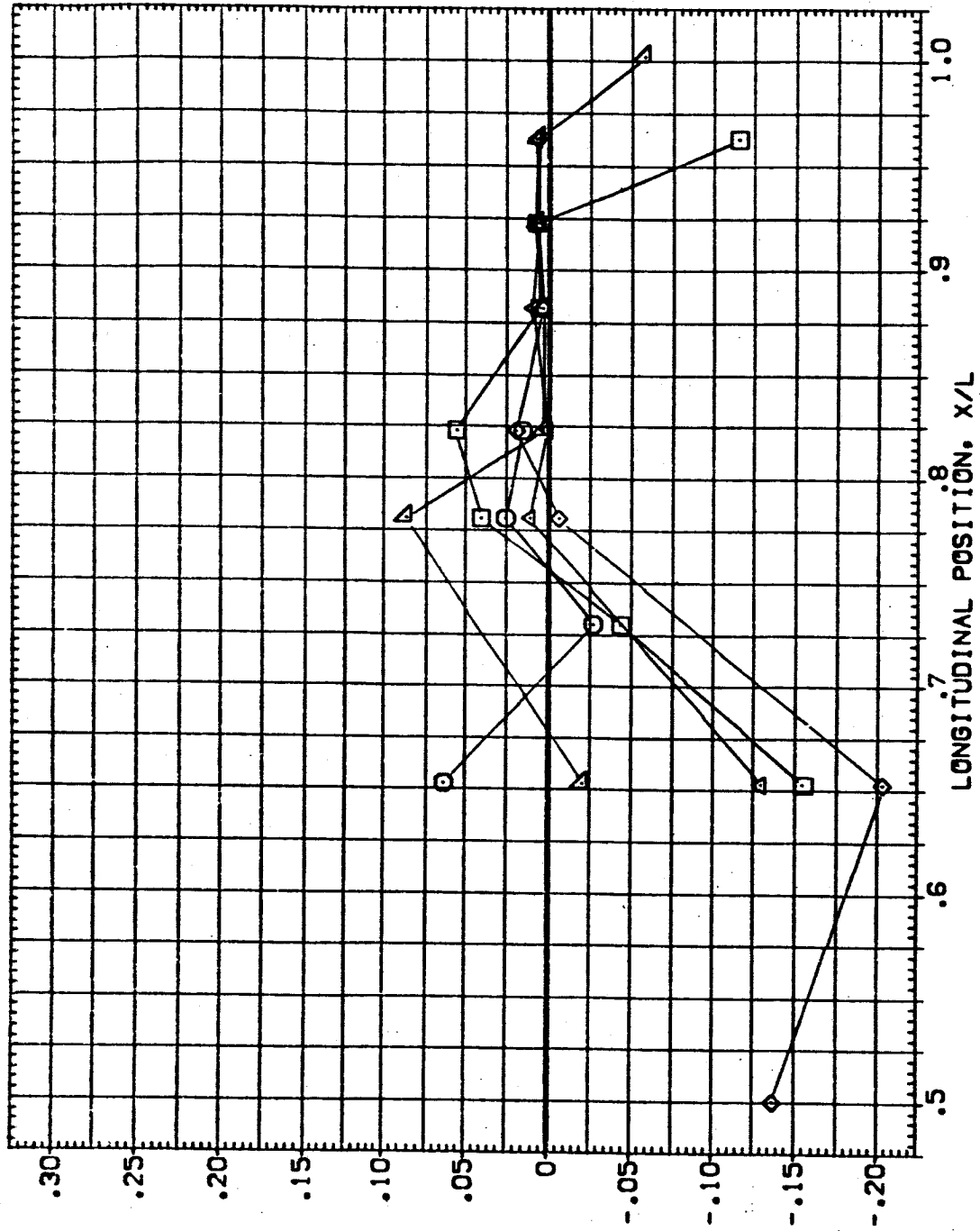


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

BETA -4.000 ALPHA .000

PHI
 255.000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ○ □ ◇ △ ▽

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

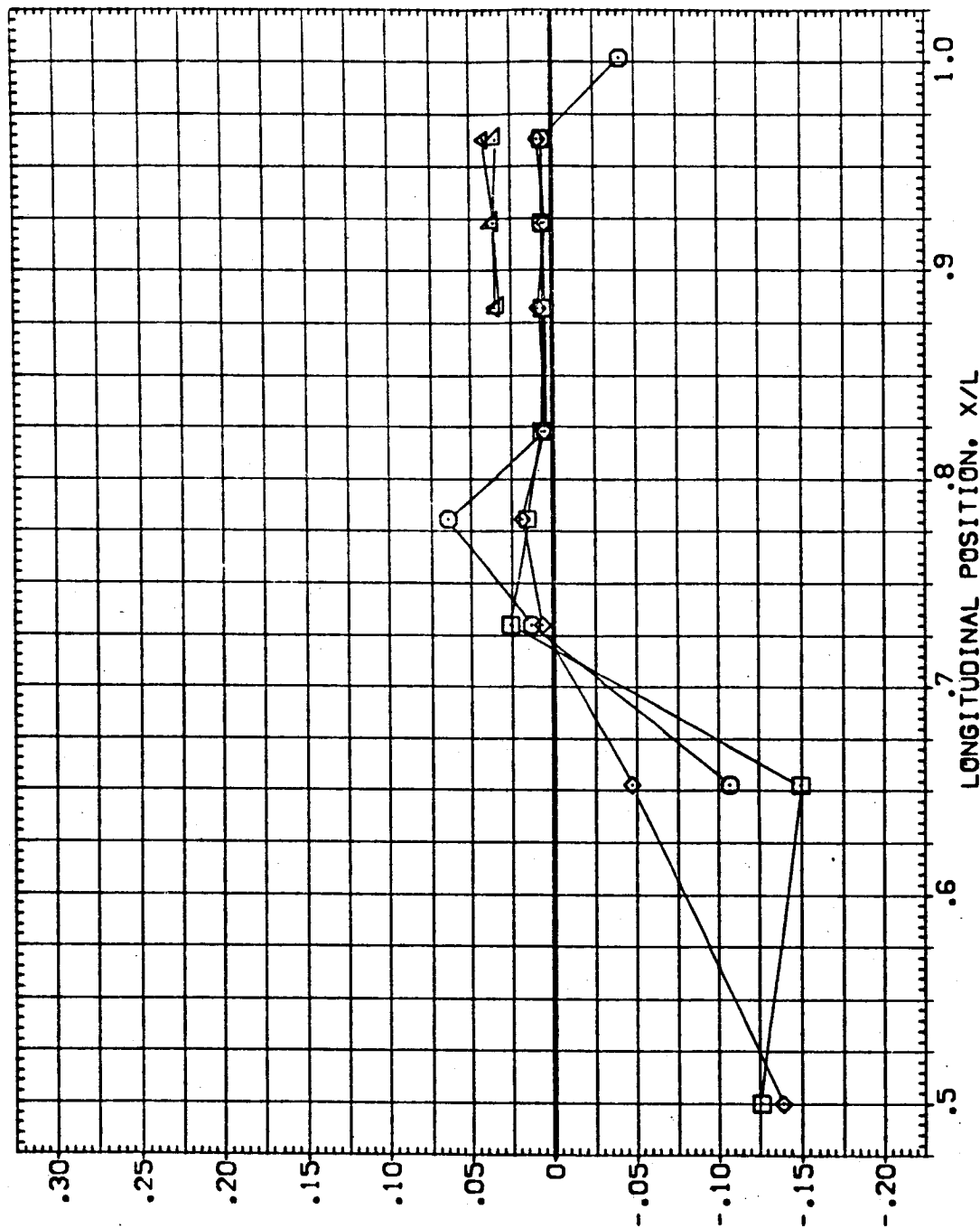


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 QTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB06)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES
○	180.000	4.000	.000	ELV-18 8.000 ELV-08 4.000
□	195.000			RUDER .000 MACH 1.100
◇	210.000			
△	225.000			
▽	240.000			

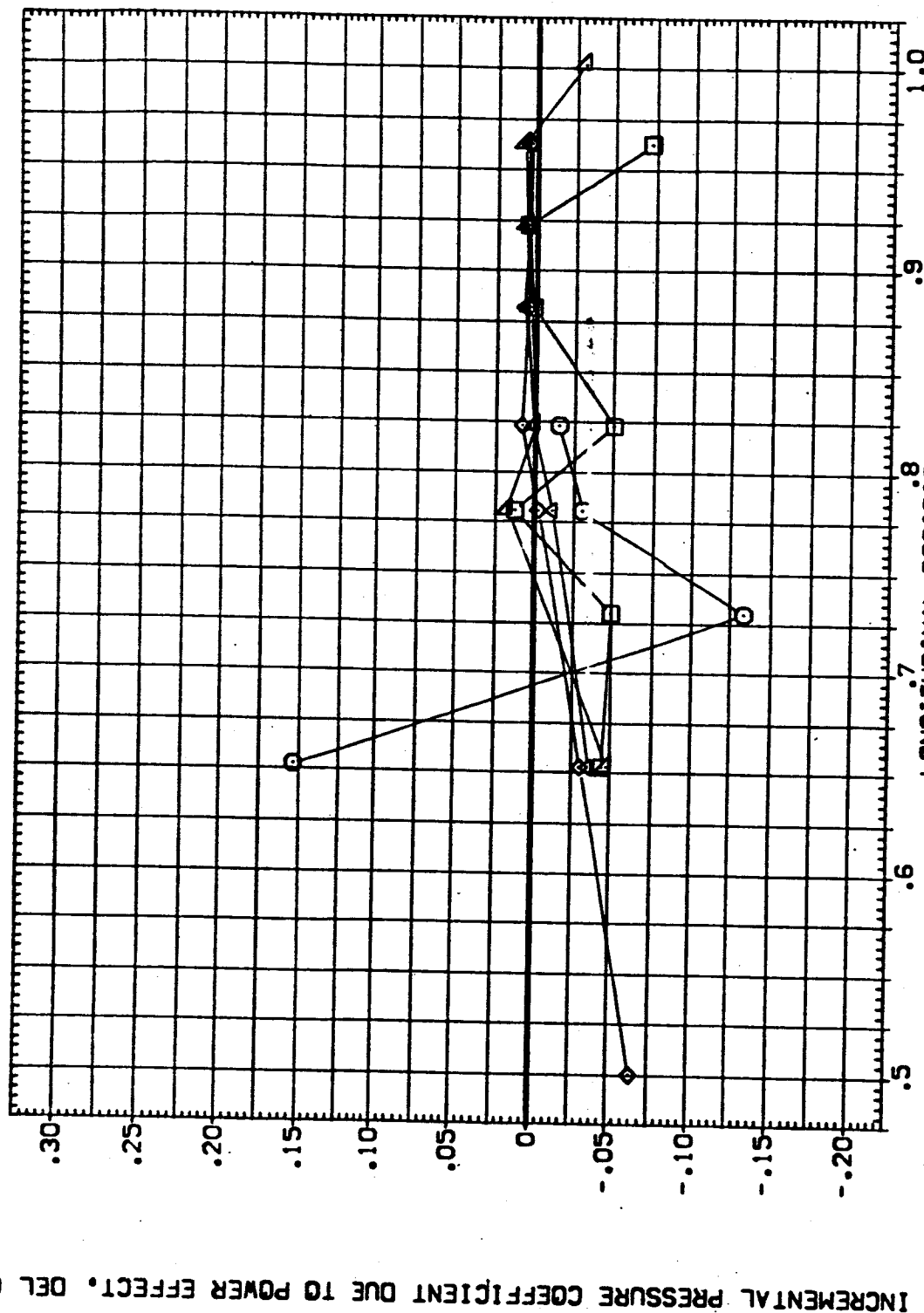


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
□	255,000	4,000	.000	RUDER	.000	1.100	
◇	270,000			GIMBAL	1.000		
△	290,000						
▽	320,000						
△	360,000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

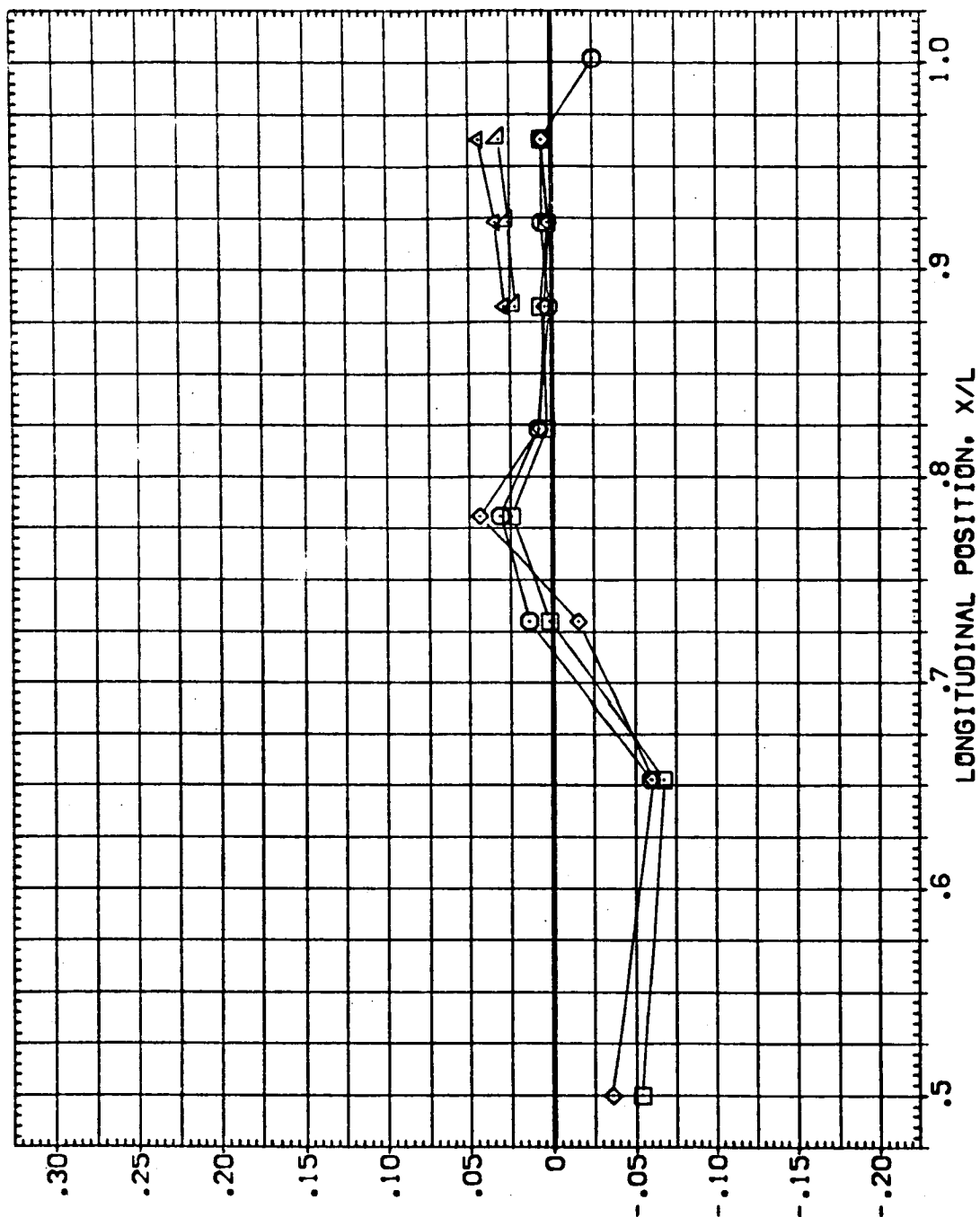


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB07)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
□	180.000	.000	-4.000	8.000	8.000	1.000	4.000
◇	195.000			RUDDER			1.250
△	210.000			GIMBAL			
▽	225.000						
▽	240.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

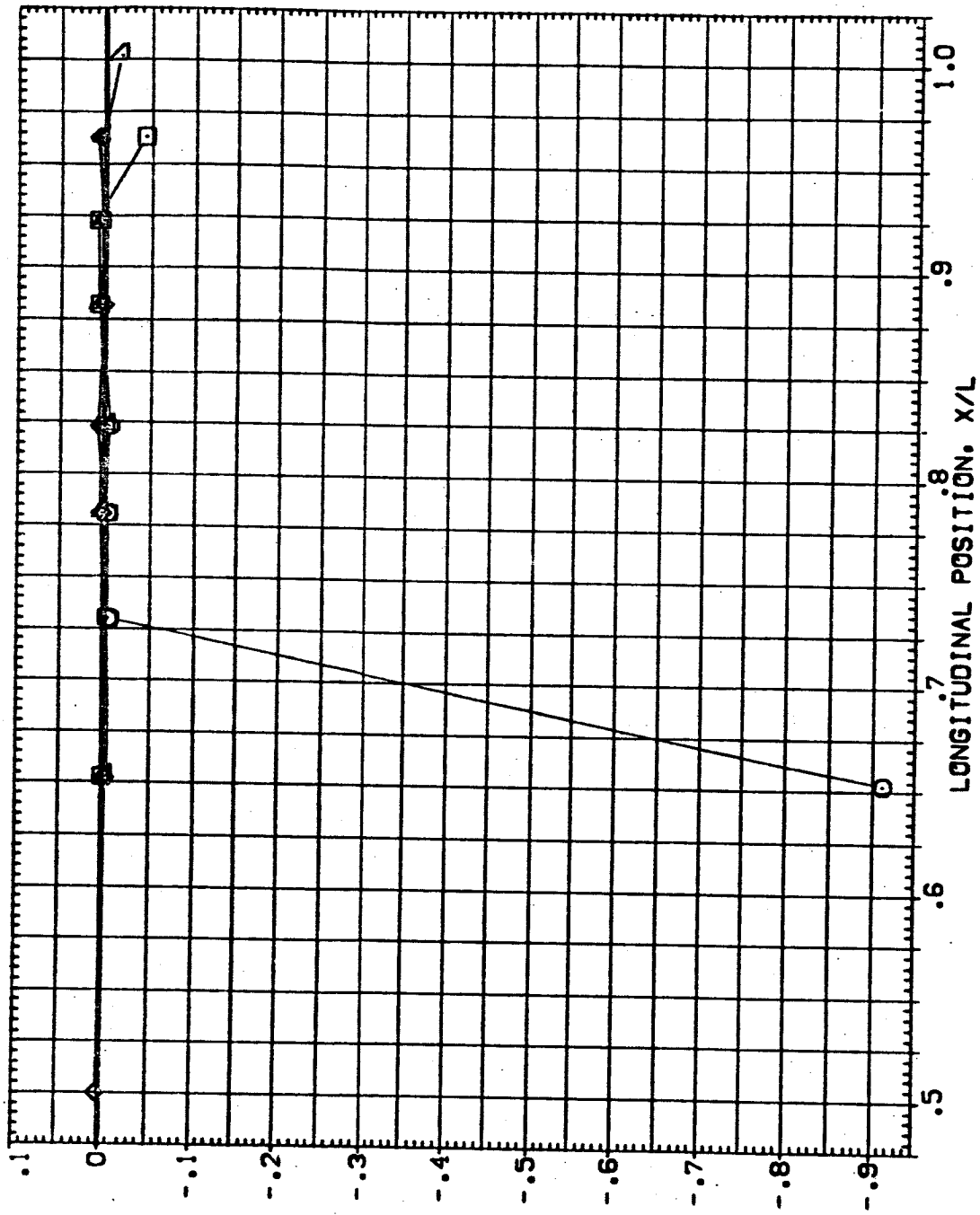


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB07)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-OB 4.000
 RUDDER .000 MACH 1.250
 G1M3AL 1.000

BETA .000 ALPHA -4.000

PHI
 255.000
 270.000
 290.000
 320.000
 350.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

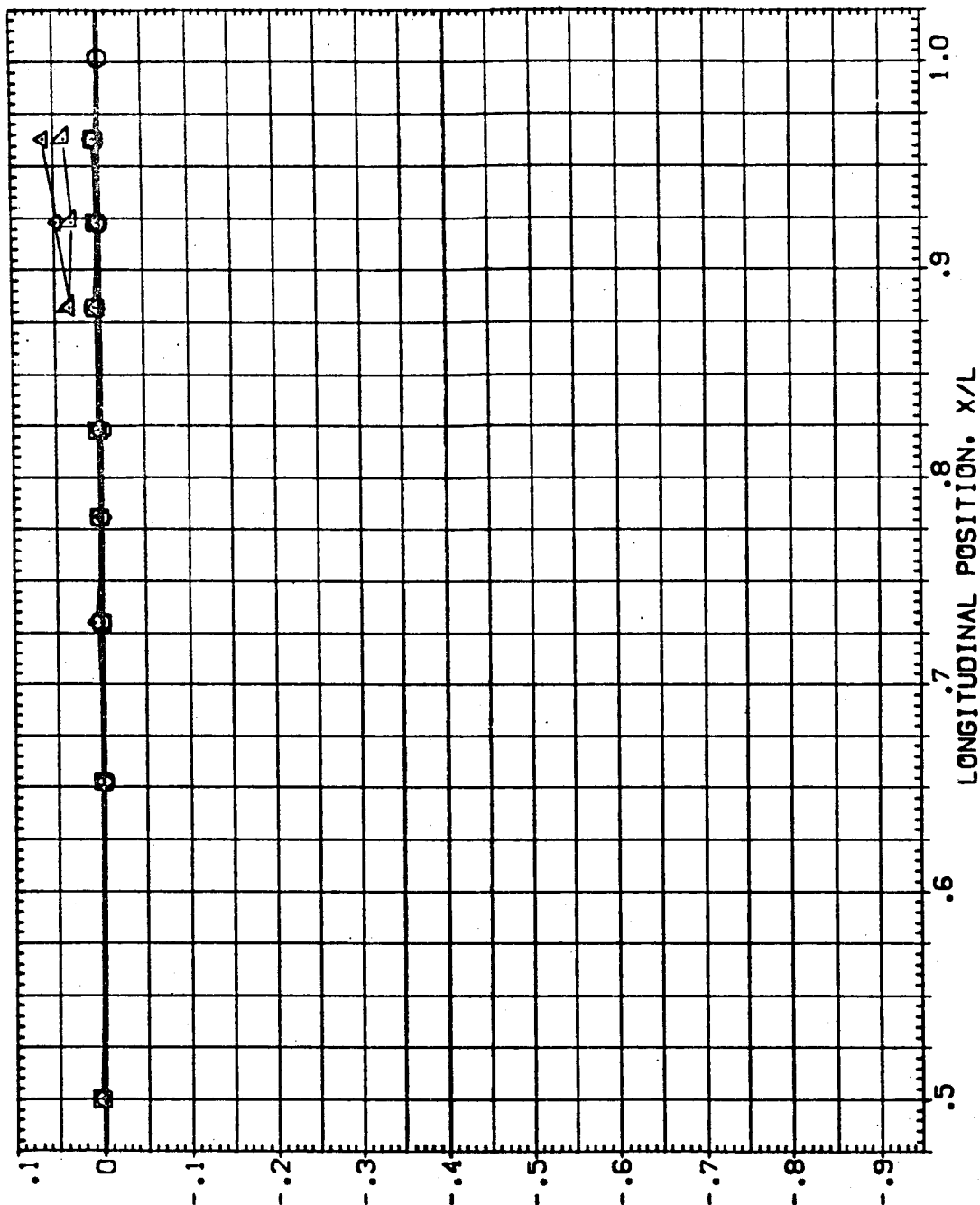


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB07)

SYMBOL	PAI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
◇	180.000	.000	.000	RUDER	.000	1.000	1.250
□	195.000			GIMBAL			
△	210.000						
▽	225.000						
▽	240.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

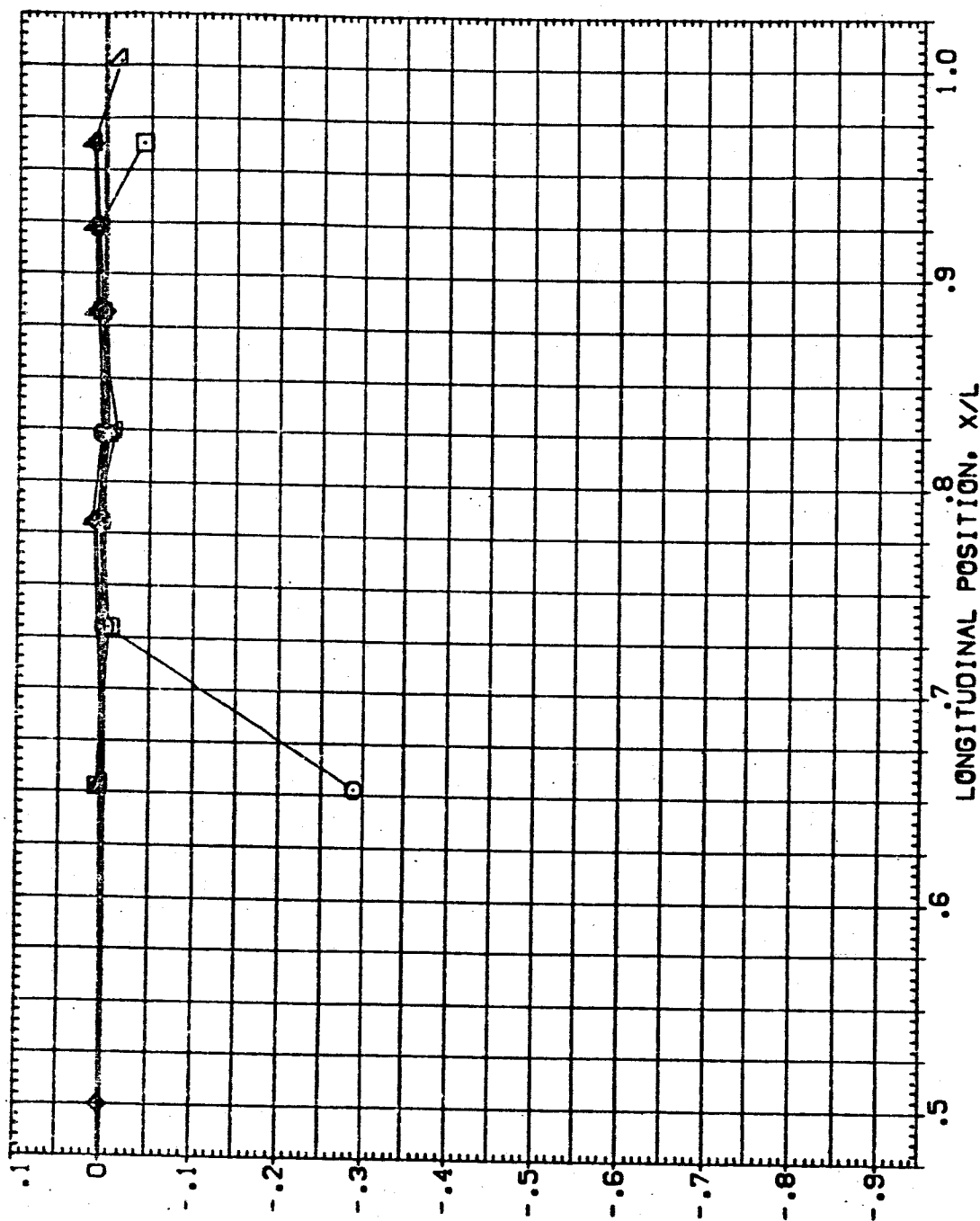


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB07)

PARAMETRIC VALUES
 ELV-18 8,000 ELV-09 1,000
 RUDDER .000 MACH 1.250
 GIMBAL 1,000

PHI BETA ALPHA
 255,000 .000 .000
 270,000
 290,000
 320,000
 360,000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

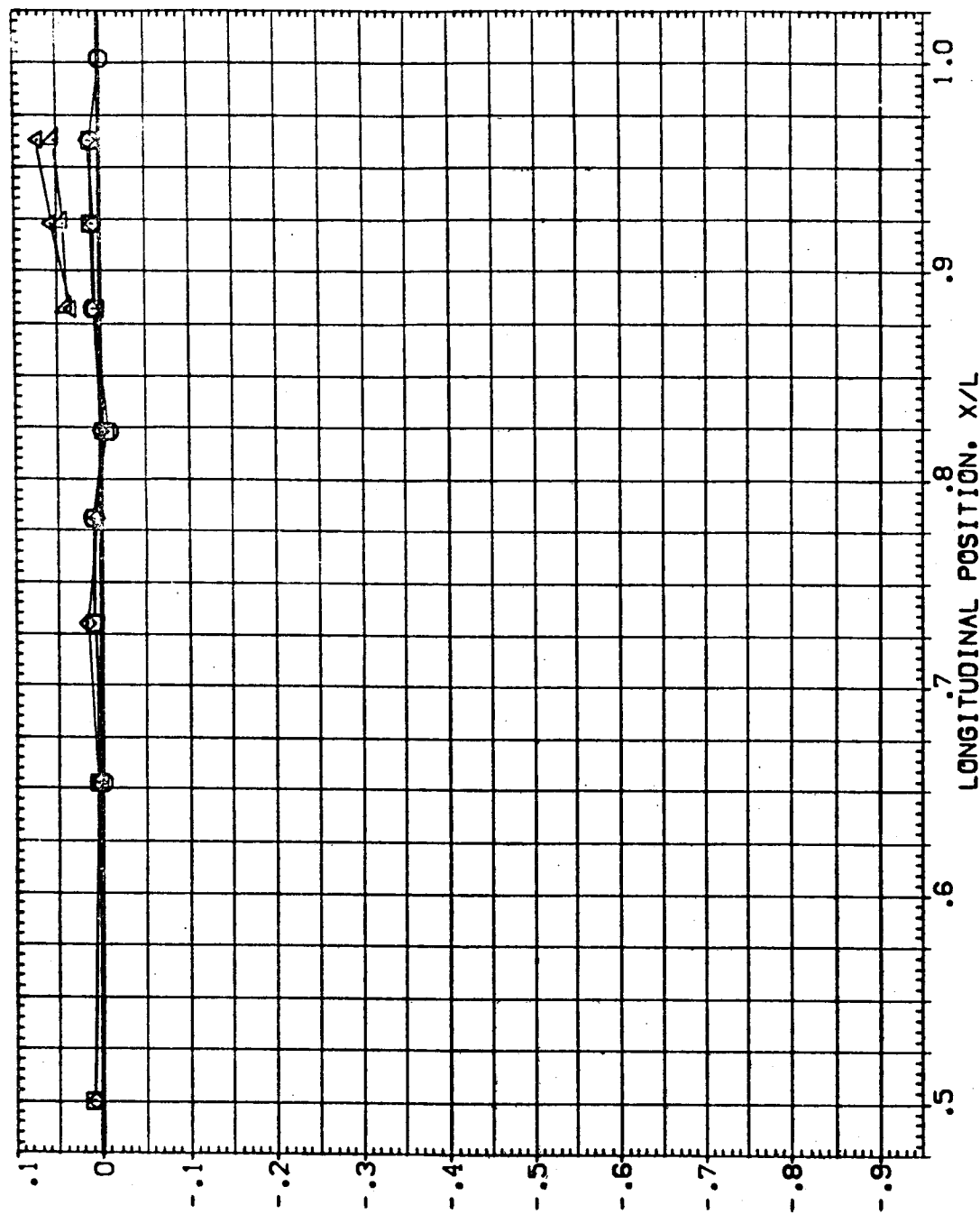


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM GRB BODY (EEUB07)

SYMBOL PHI BETA ALPHA

□ 180.000 .000 4.000

◇ 195.000

◇ 210.000

◇ 225.000

◇ 240.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.250

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

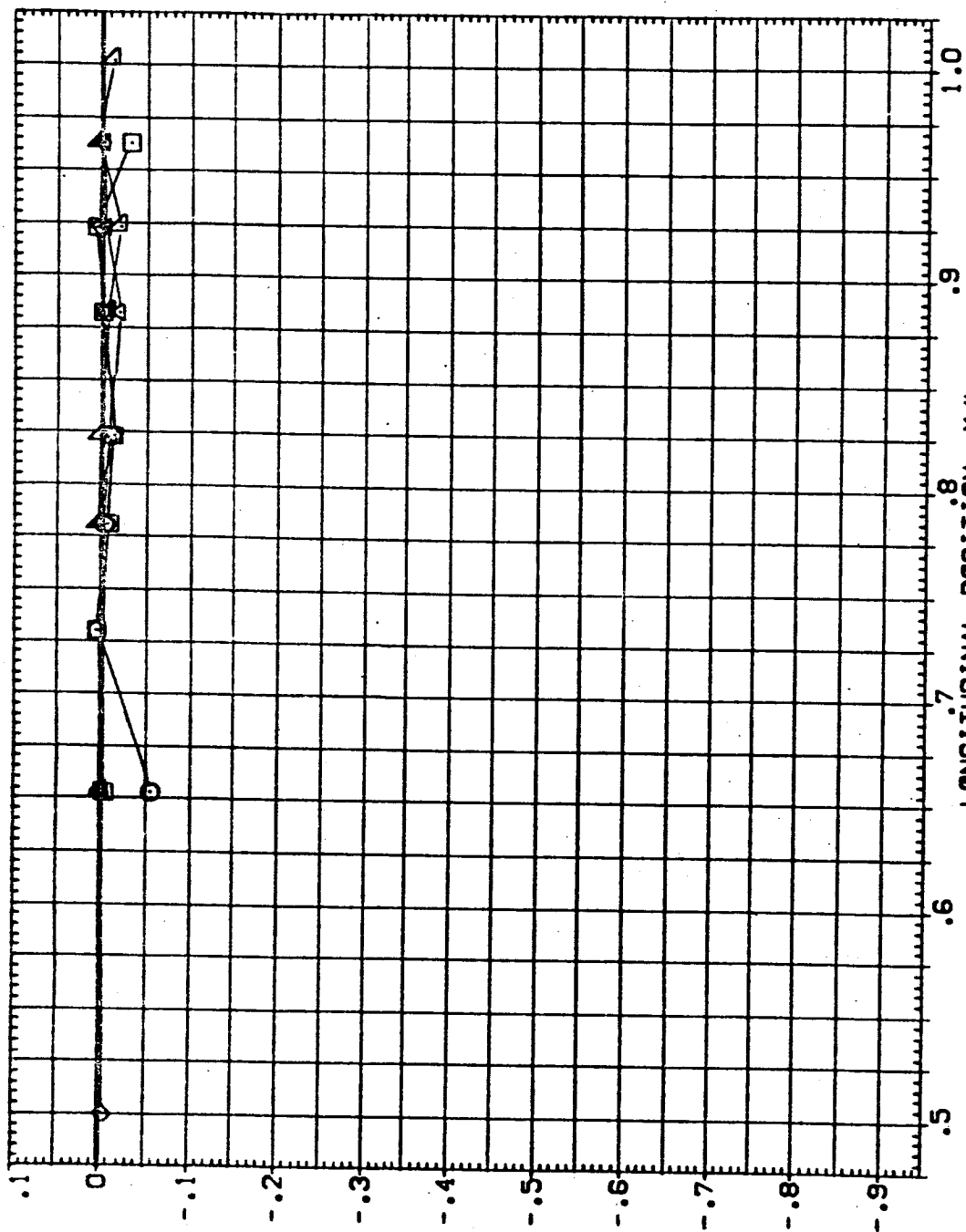


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

PARAMETRIC VALUES
 ELV-18 8.000 ELV-OB 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

PHI BETA ALPHA
 255.000 .000 4.000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ○ □ ◇ △ ▽

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

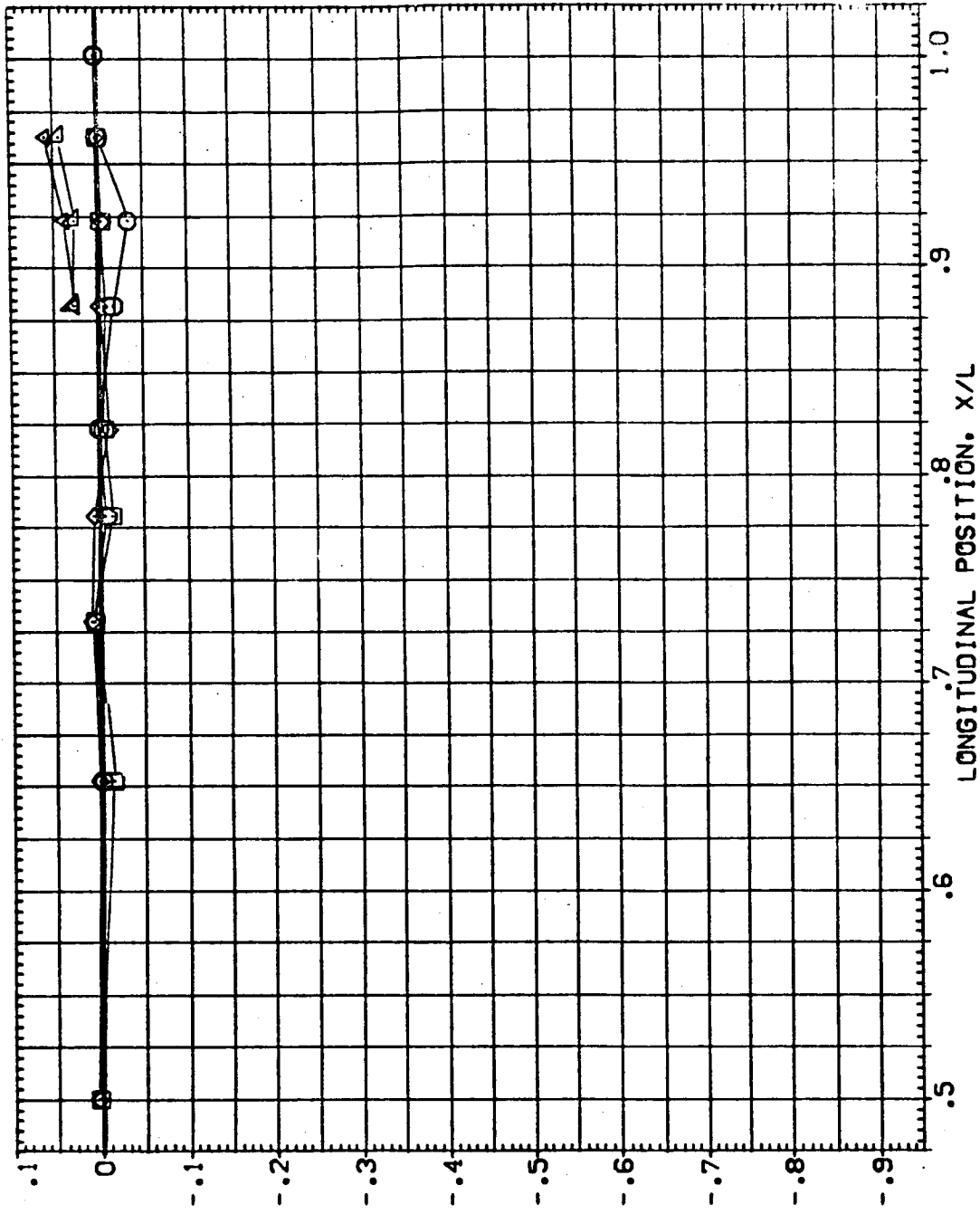


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB07)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-19	ELV-08	ELV-08	MACH
□	180.000	-4.000	.000	RUDDER	.000	1.000	1.250
◇	195.000			GINGAL			
◇	210.000						
◇	225.000						
△	240.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

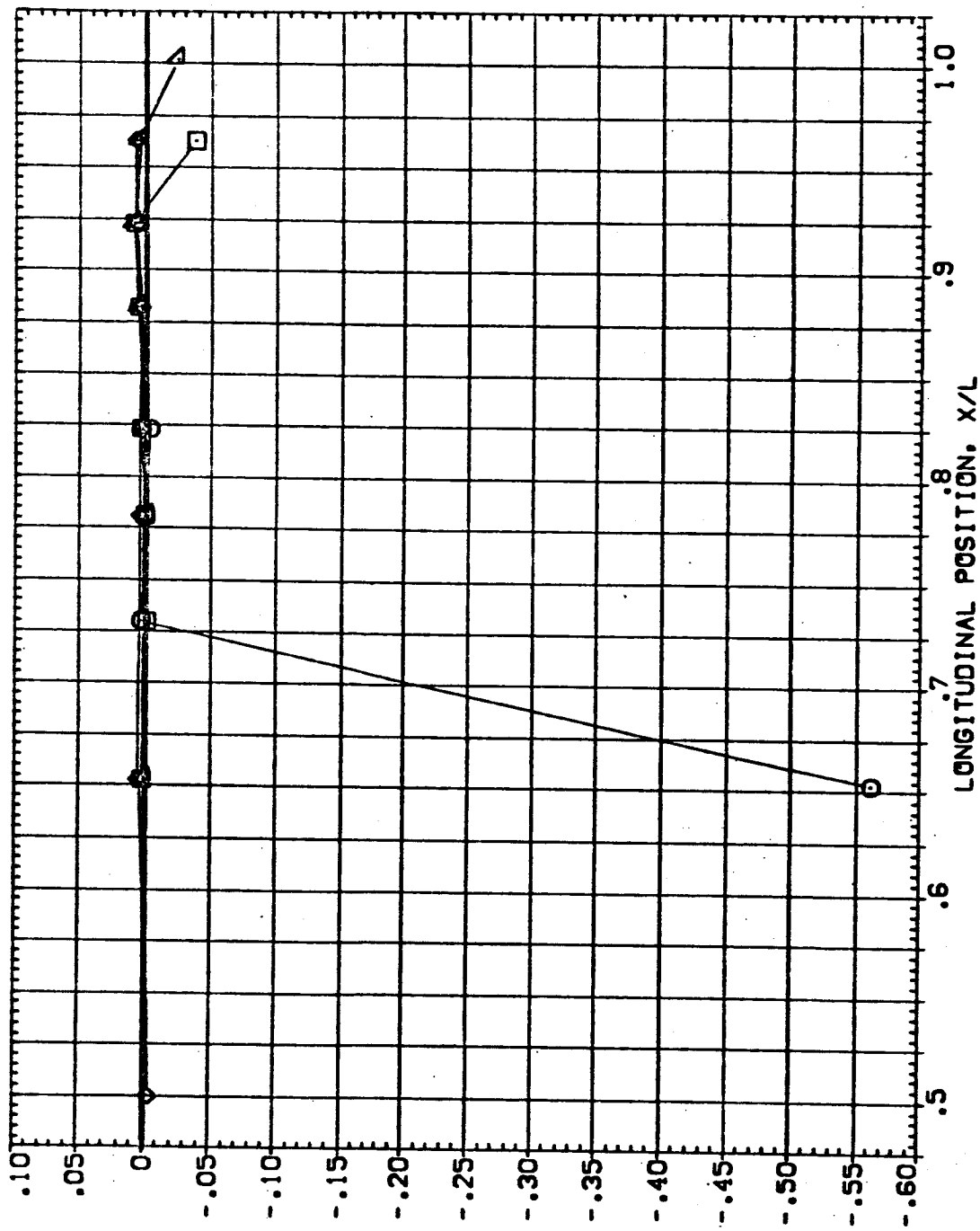


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB07)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-09	MACH	
○	255,000	-4,000	.000	RUDER	.000	1.000	1,250
□	270,000			GIMBAL	1.000		
◇	290,000						
△	320,000						
▽	360,000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

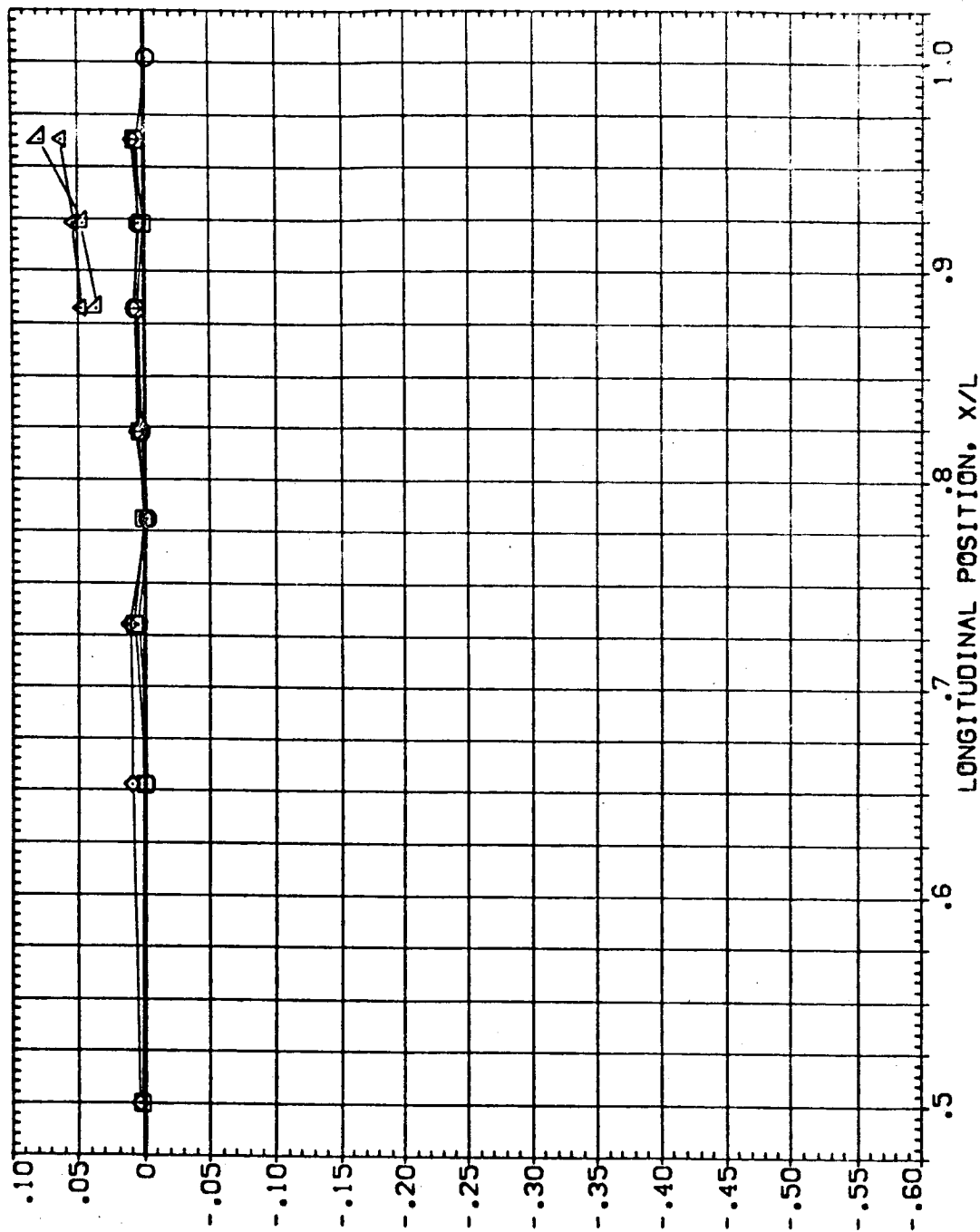


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB07)

SYMBOL Φ \square \diamond \triangle
 PHI 180.000
 195.000
 210.000
 225.000
 240.000

BETA 4.000
 ALPHA .000

PARAMETRIC VALUES
 ELV-18 9.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

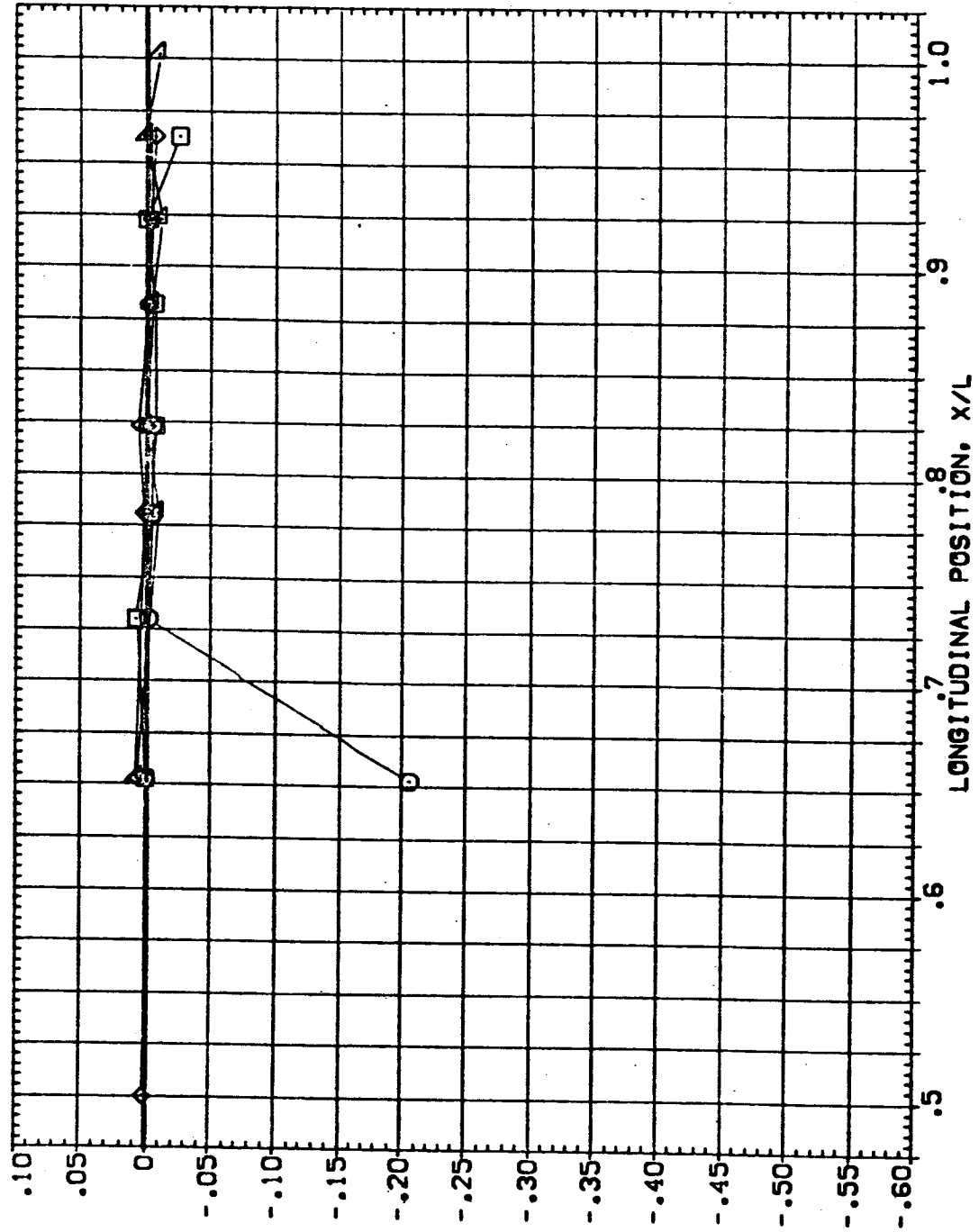


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB07)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL PHI BETA ALPHA
 255.000
 270.000
 290.000
 320.000
 360.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

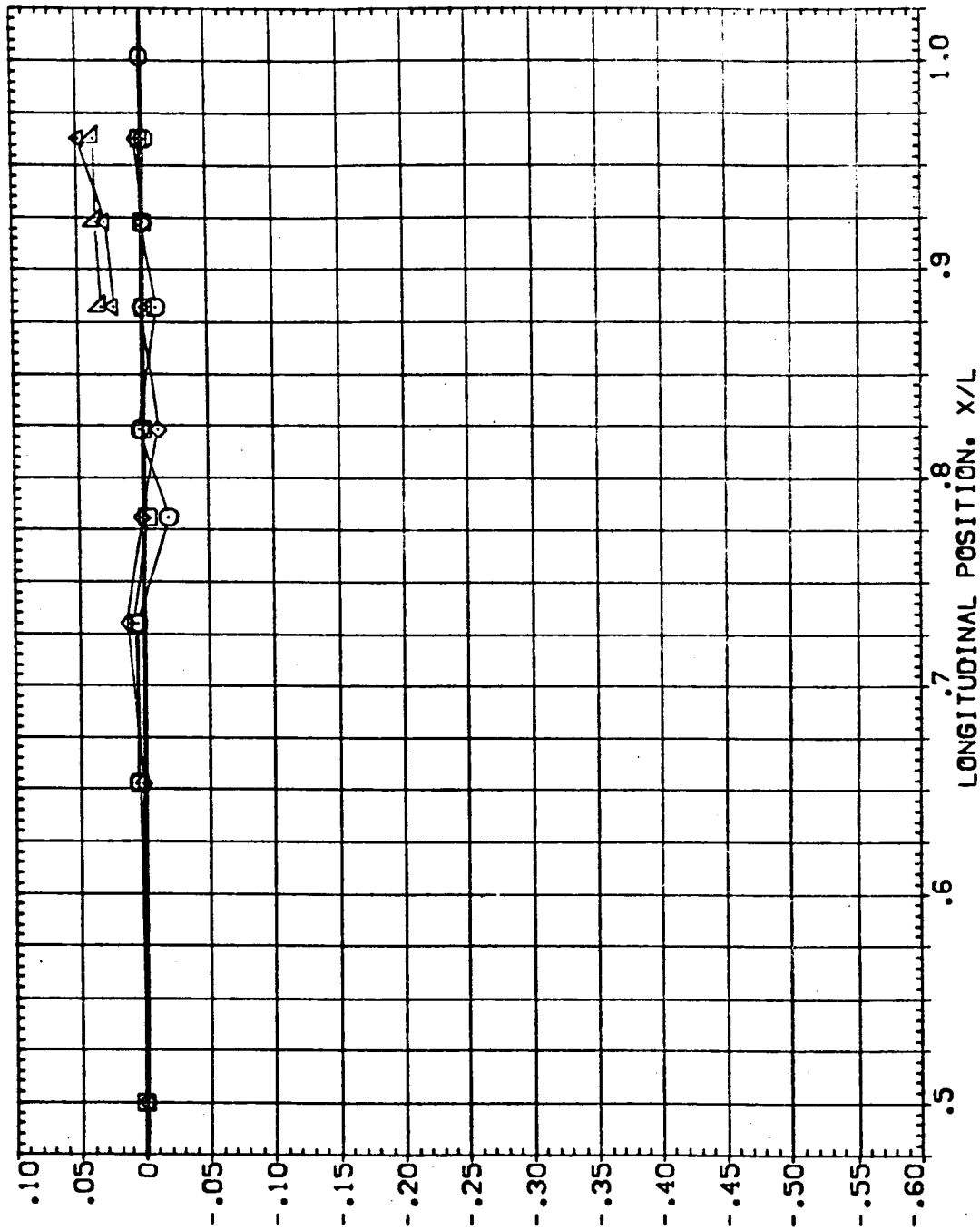


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB08)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

PHI BETA ALPHA
 180.000 .000 -4.000
 195.000
 210.000
 225.000
 240.000

SYMBOL
 ○ □ ◇ ▽

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

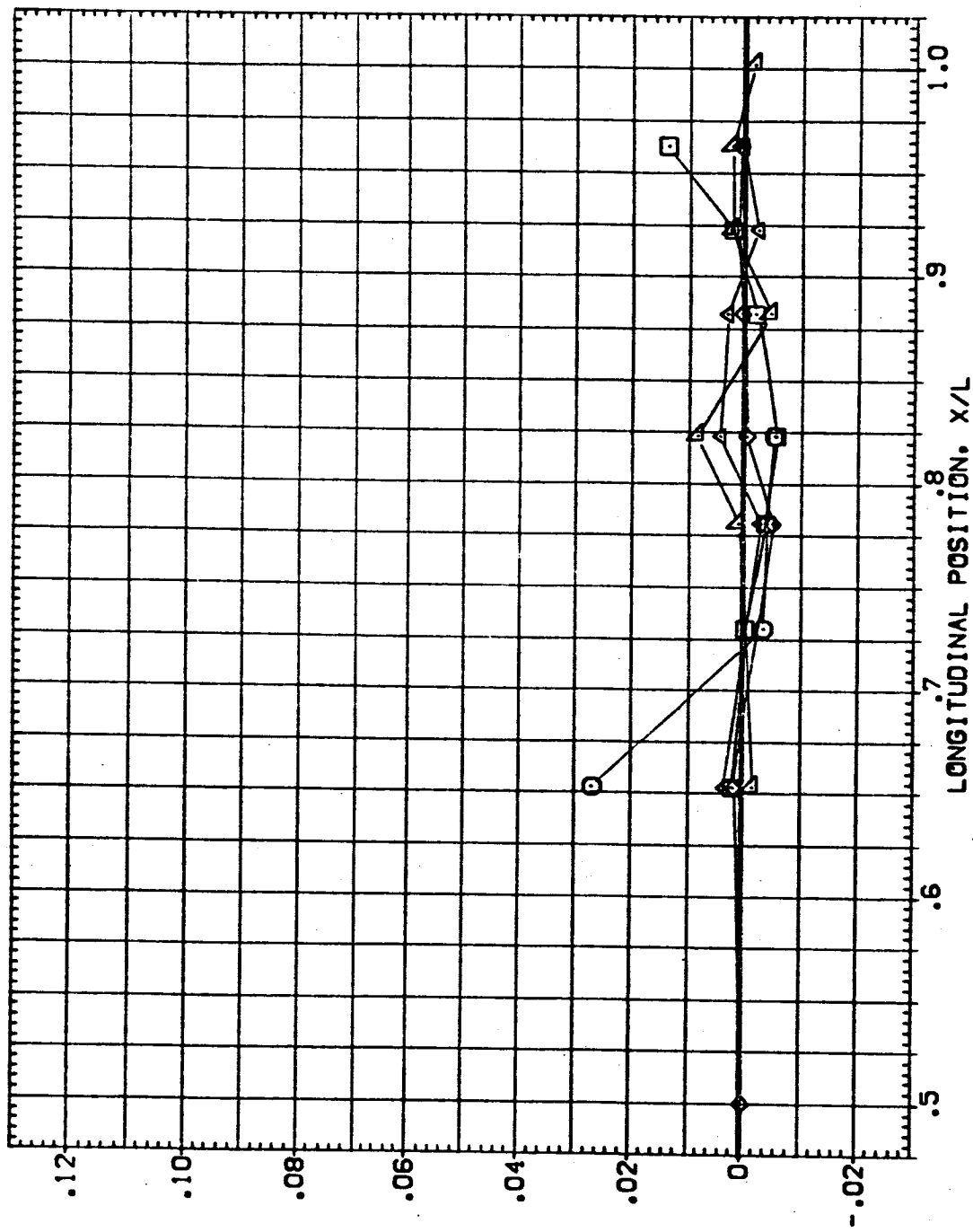


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB08)

SYMBOL PHJ BETA ALPHA

255.000
270.000
290.000
320.000
360.000

△
◇
□
○
▽

PARAMETRIC VALUES

ELV-1B 8.000 ELV-OB 4.000
RUDDER .000 MACH 1.400
GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

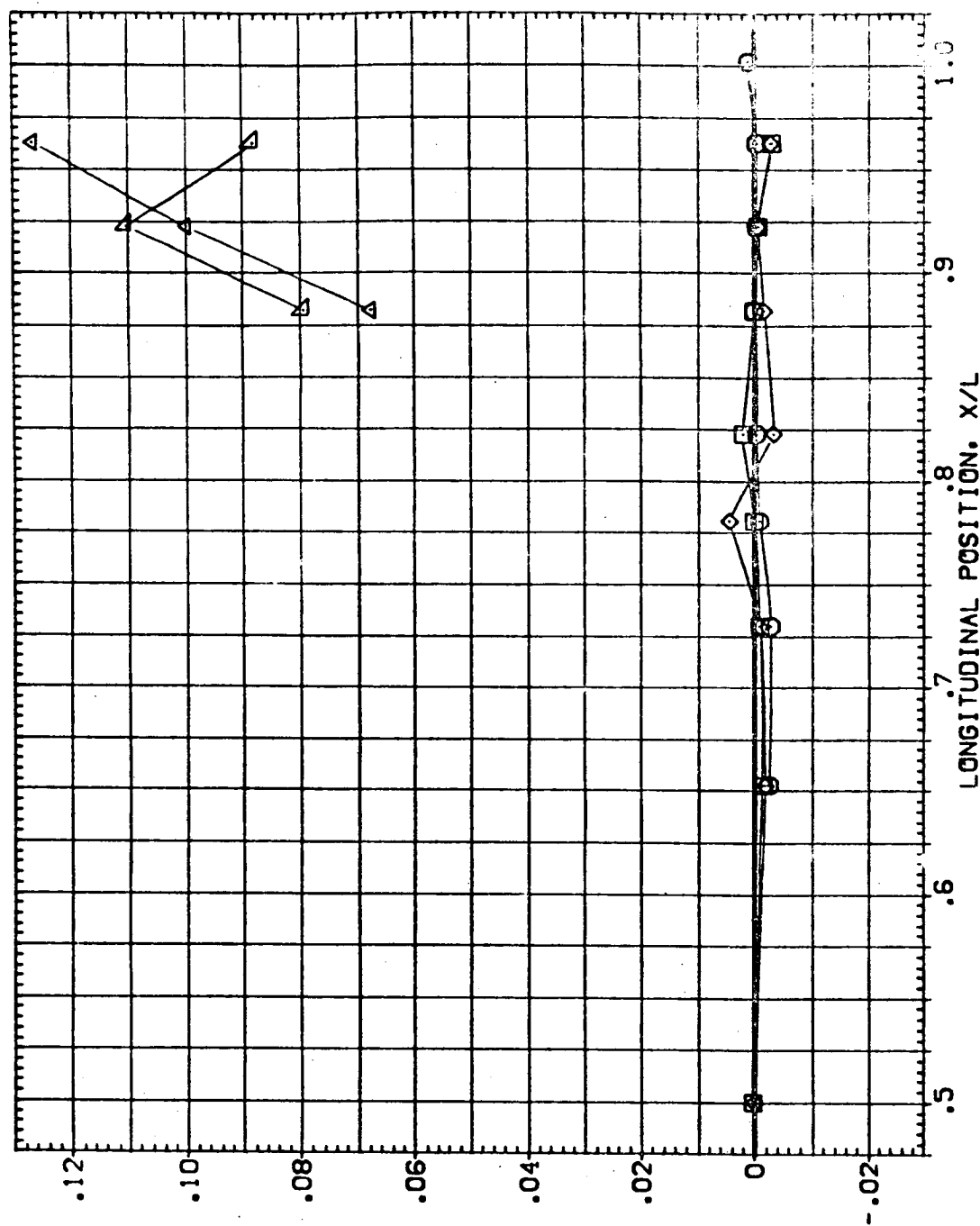


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB08)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL PHI BETA ALPHA
 180.000
 195.000
 210.000
 225.000
 240.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

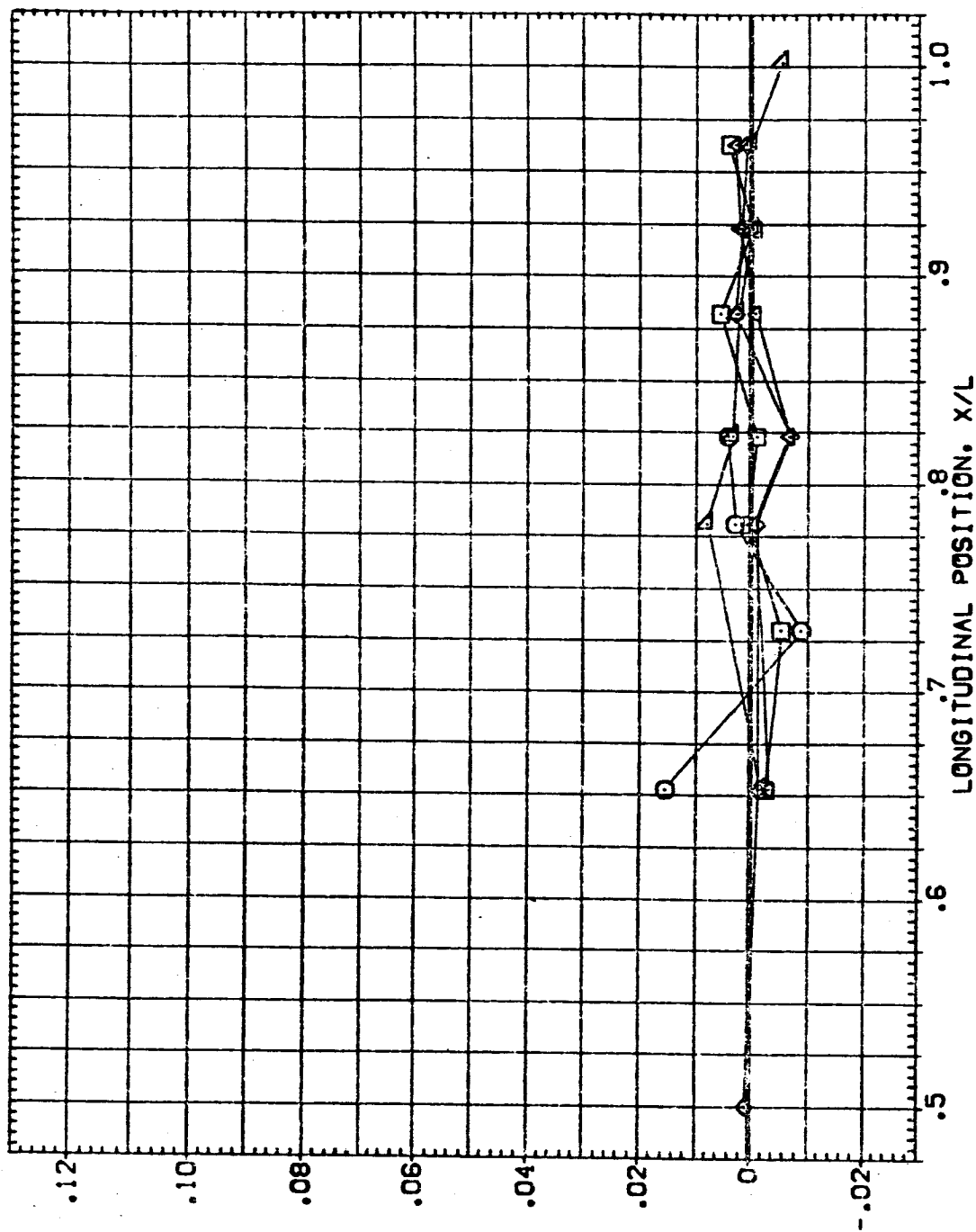


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB08)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

PHI BETA ALPHA
 255.000 .000 .000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ○ □ ◇ △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

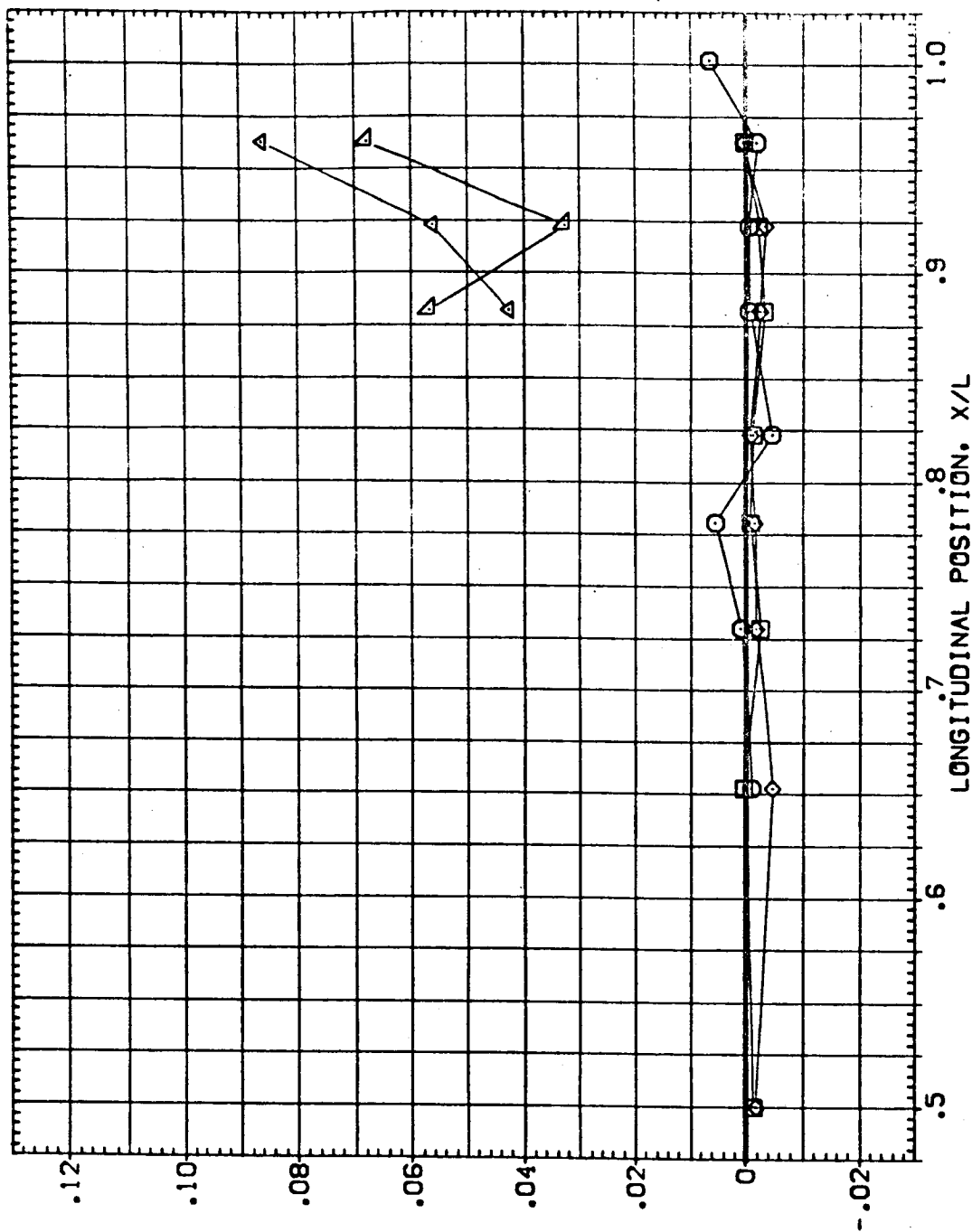


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB08)

SYMBOL PHI BETA ALPHA
 180.000
 195.000
 210.000
 225.000
 240.000

PARAMETRIC VALUES
 ELV-18 9.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

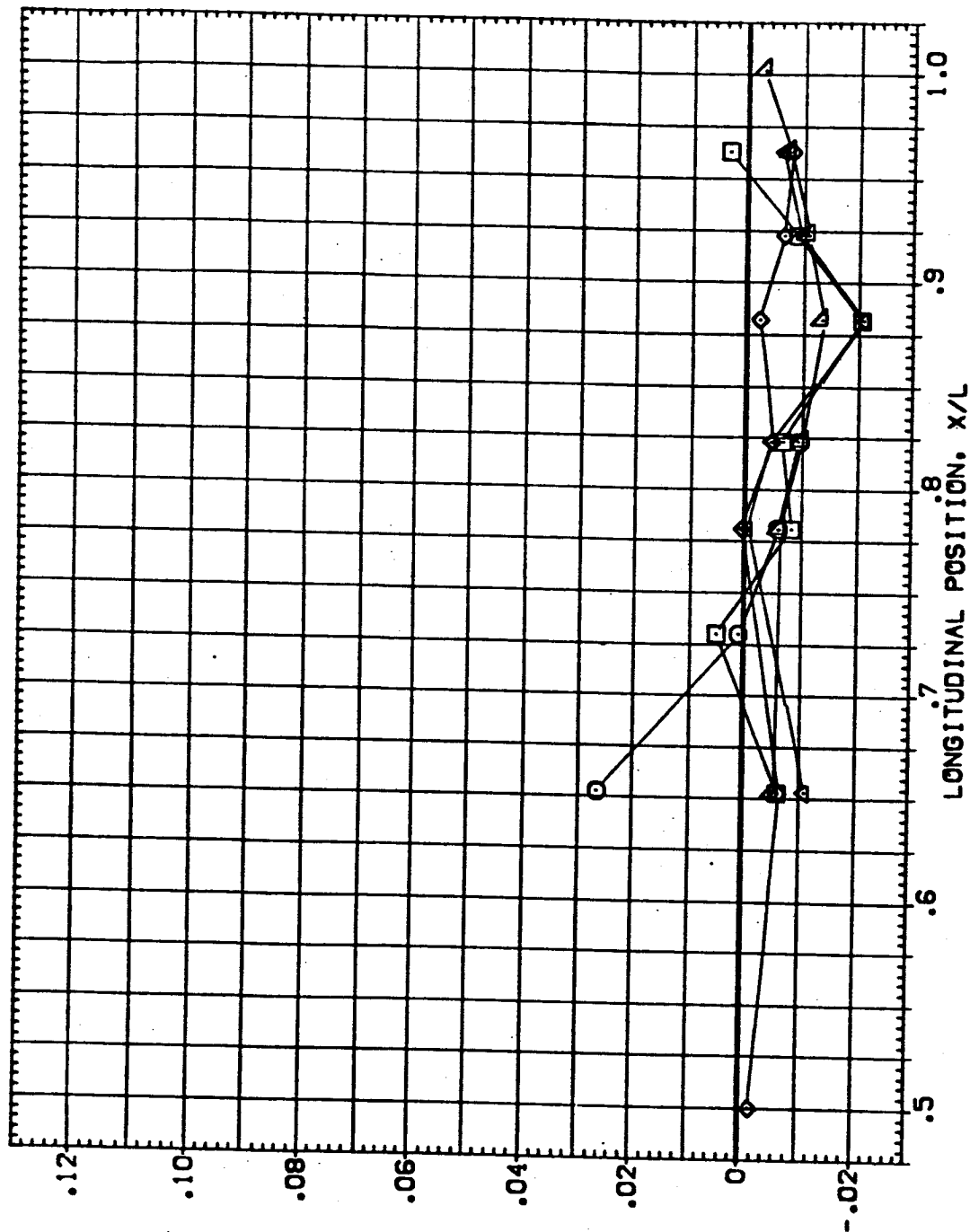


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (EEUB08)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL PHI BETA ALPHA
 255.000
 270.000
 290.000
 320.000
 360.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

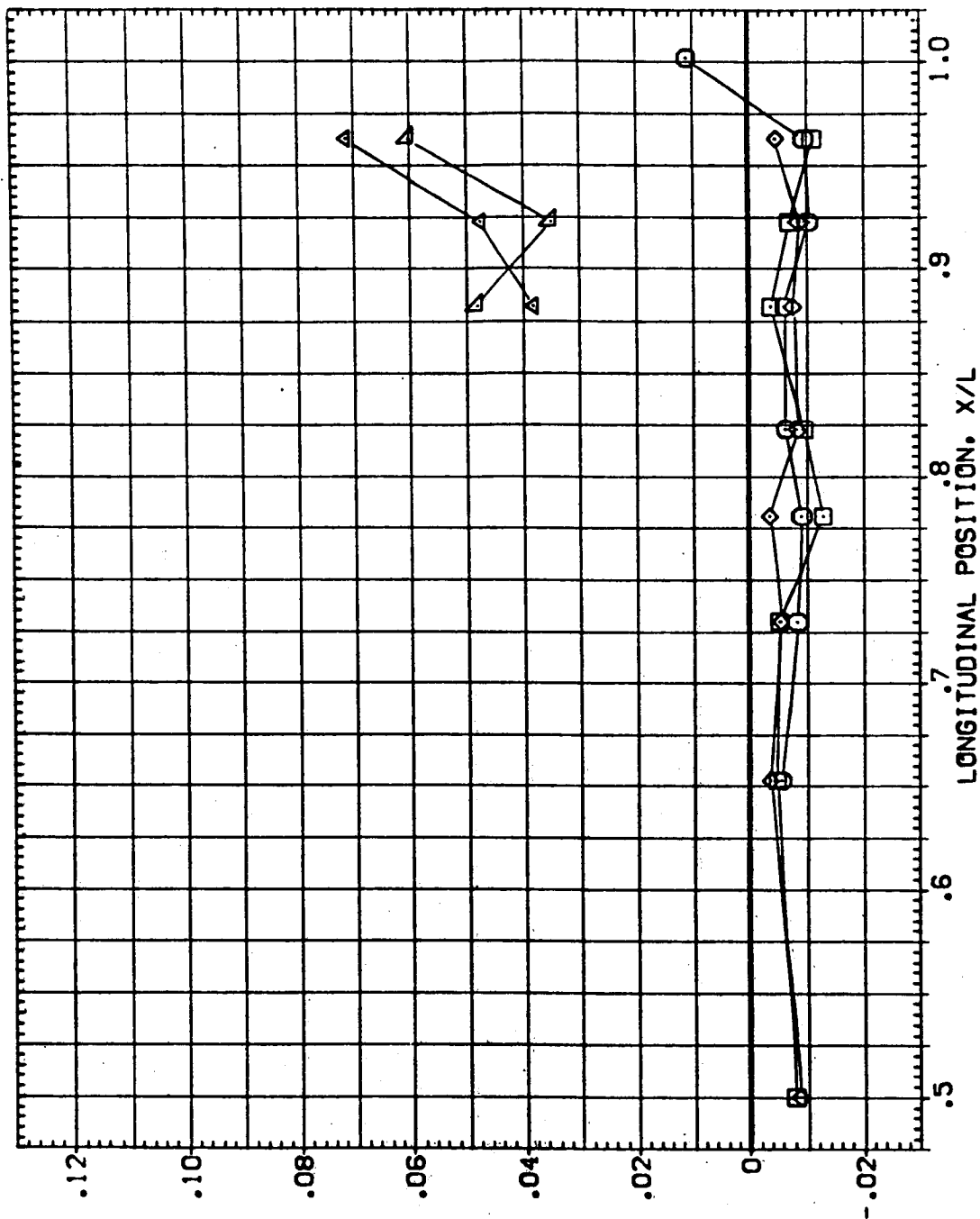


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEU808)

SYMBOL
 ▽
 ◇
 □
 ○

PMI
 180.000
 195.000
 210.000
 225.000
 240.000

BETA
 -4.000
 ALPHA
 .000

PARAMETRIC VALUES
 ELV-18
 RUDDER
 GIMBAL
 8.000
 .000
 1.000
 ELV-08
 MACH
 4.000
 1.400

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

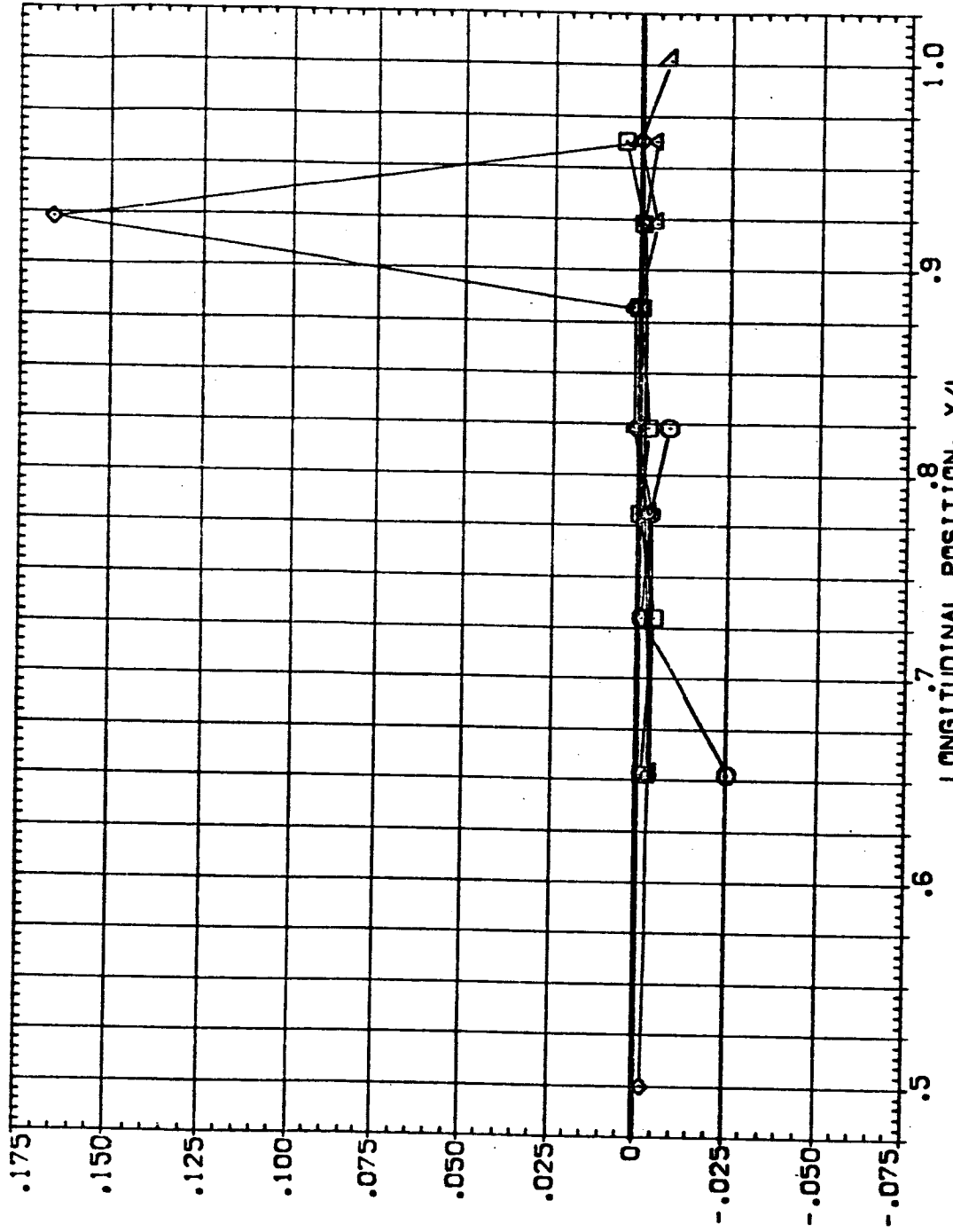


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY(FEUB08)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES
○	255.000	-4.000	.000	ELV-18 8.000 ELV-08 4.000
□	270.000			RUDER .000 MACH 1.400
◇	290.000			GIMBAL 1.000
△	320.000			
▽	360.000			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

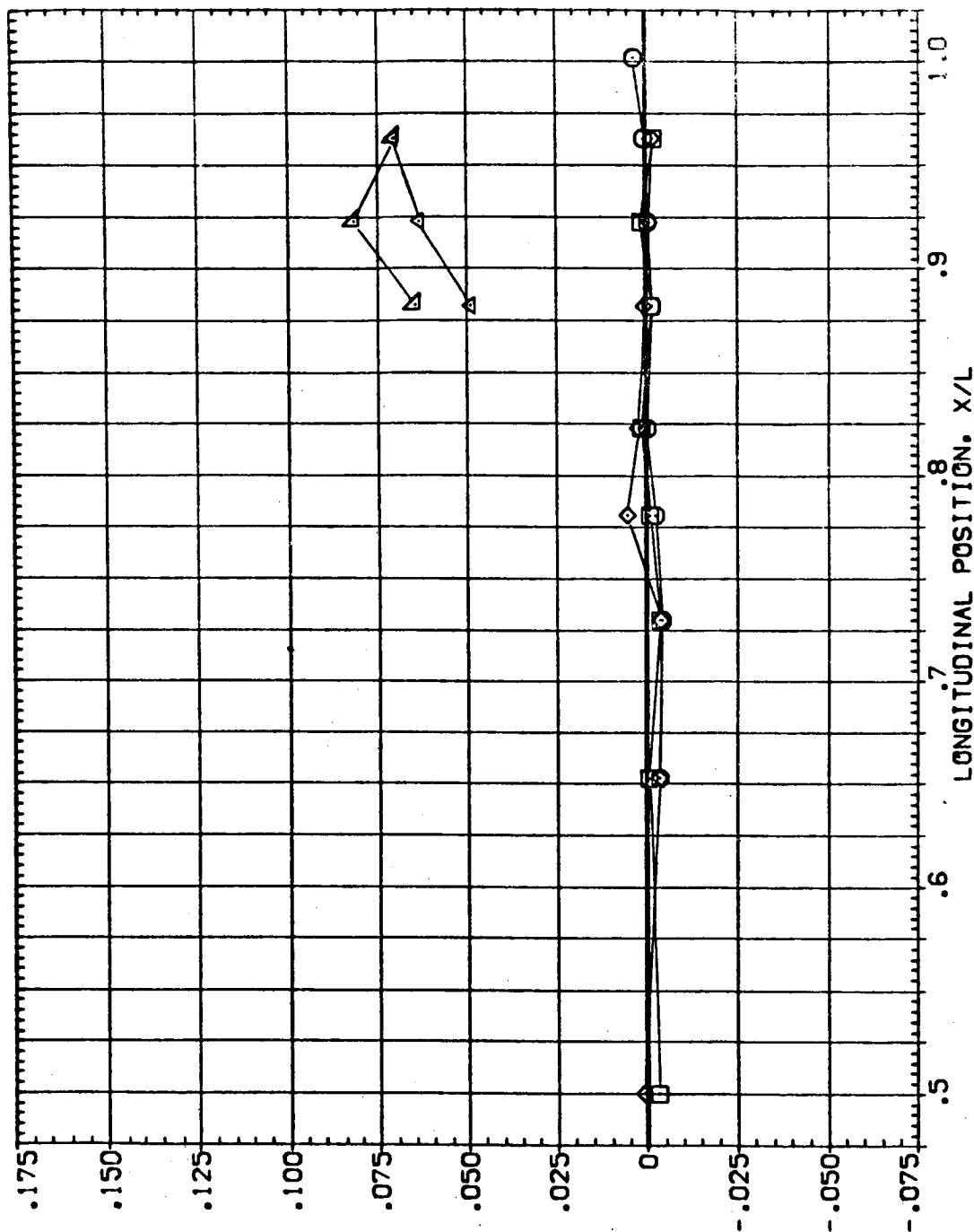


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM ORB BODY (FEUB08)

SYMBOL	PMI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
▽	180.000	1.000	.000	RUDER	.000	MACH	1.400
◇	195.000			GIMBAL	1.000		
□	210.000						
△	225.000						
	240.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

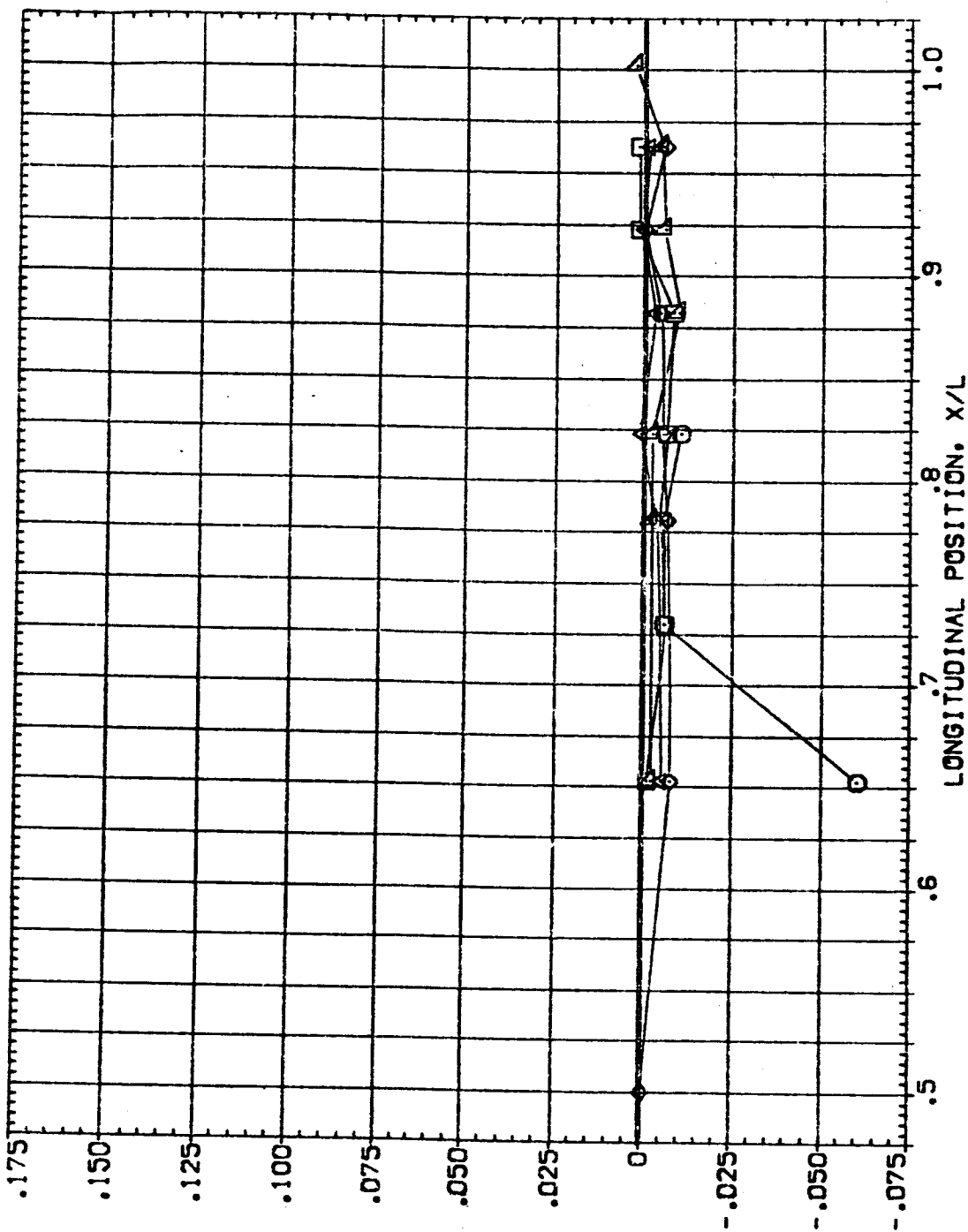


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	255,000	4,000	.000	RUDER	.000	1,000	4,000
□	270,000			GIMBAL	1,000		1,400
◇	290,000						
△	320,000						
▽	360,000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

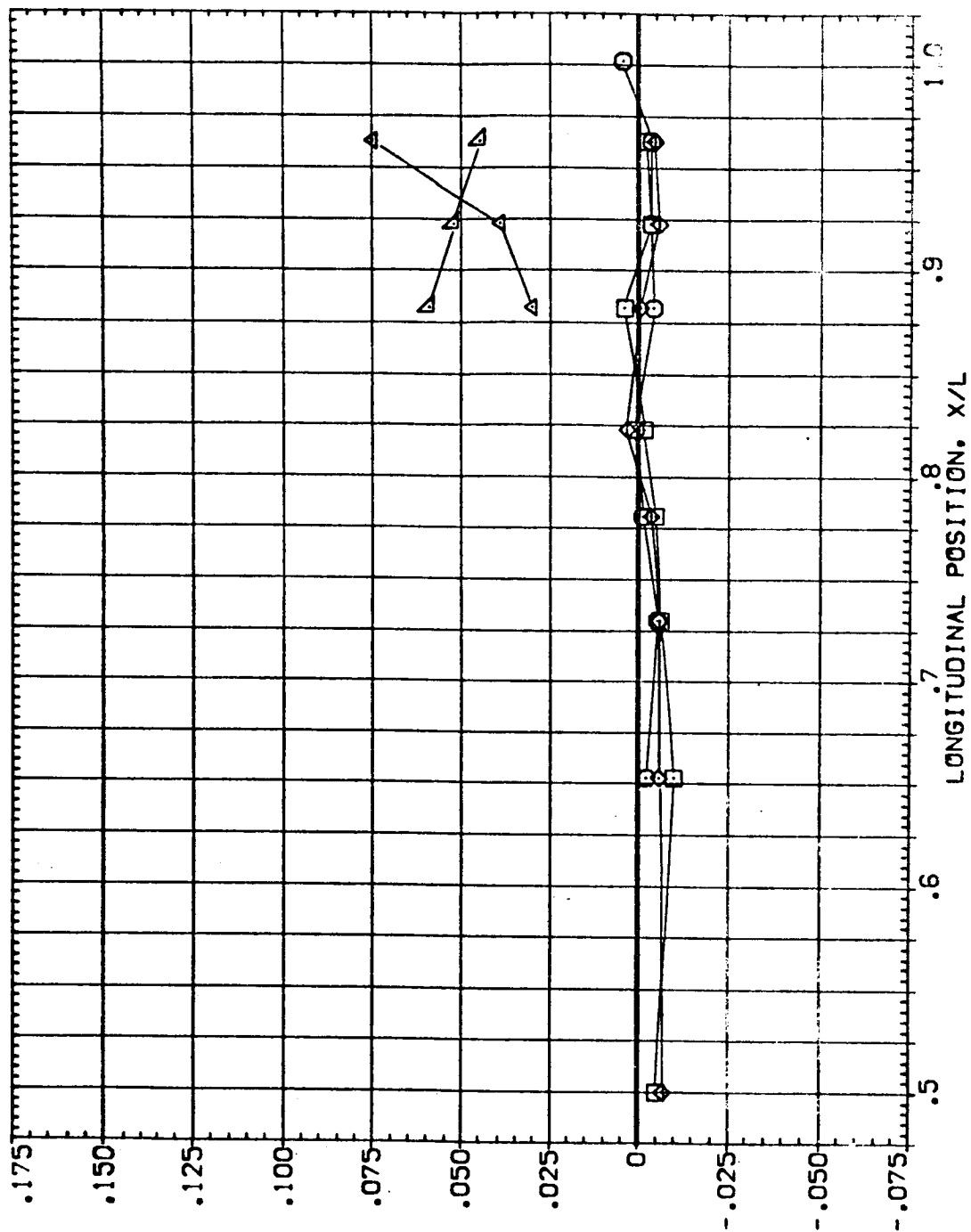


FIG. 91 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB13)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	180.000	.000	-4.000	RUDER	.000	1.000	
□	195.000			GIMBAL			
△	210.000						
▽	225.000						
◇	240.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

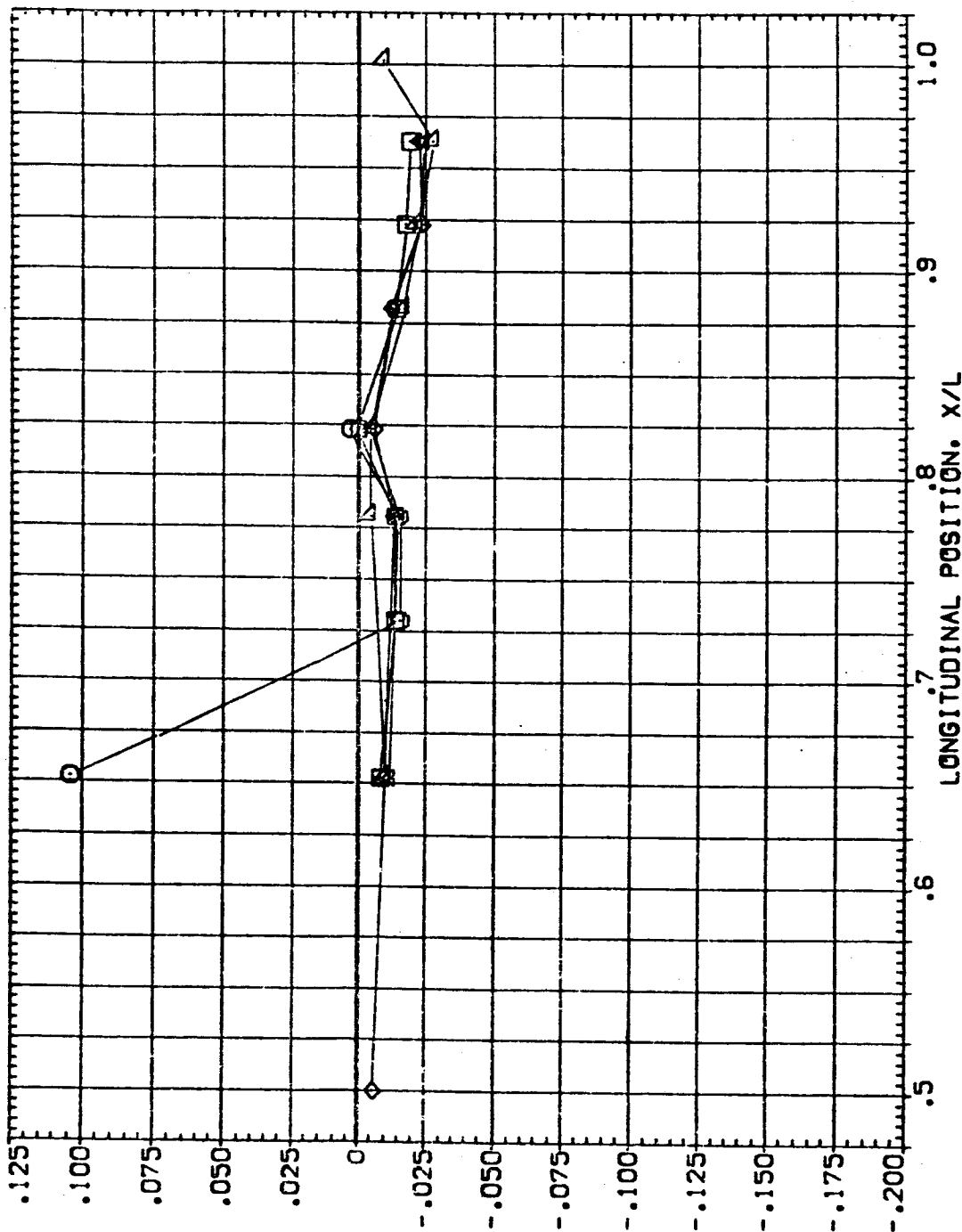


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB13)

PARAMETRIC VALUES
 ELV-19 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

PHI BETA ALPHA
 255.000 .000 -4.000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ○
 □
 ◇
 △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

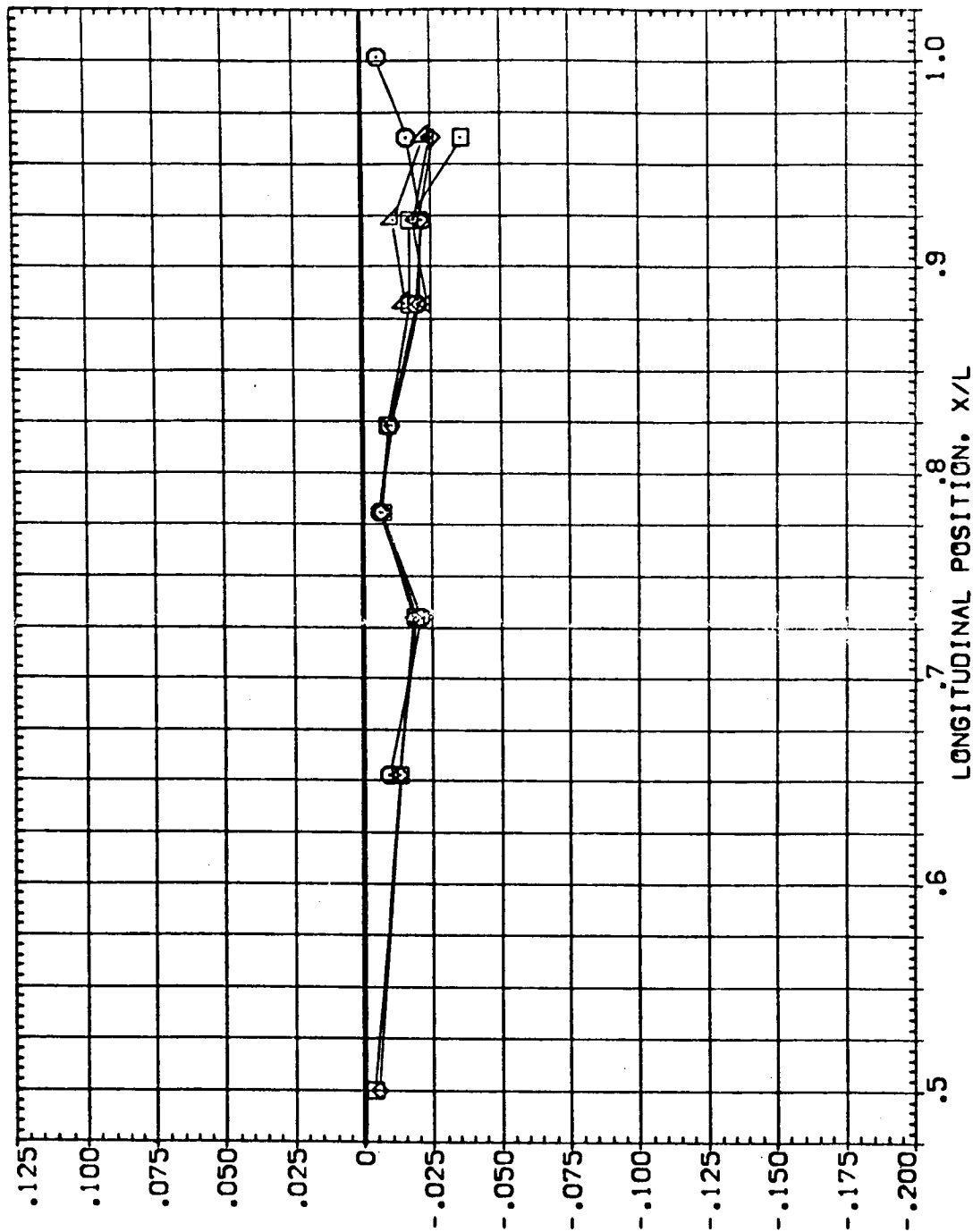


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB13)

SYMBOL	PARAMETRIC VALUES	
	ELV-18	ELV-08
180.000	0.000	0.000
195.000	0.000	0.000
210.000	0.000	0.000
225.000	0.000	0.000
240.000	0.000	0.000
	RUDDER	MACH
	GIMBAL	
	1.000	1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

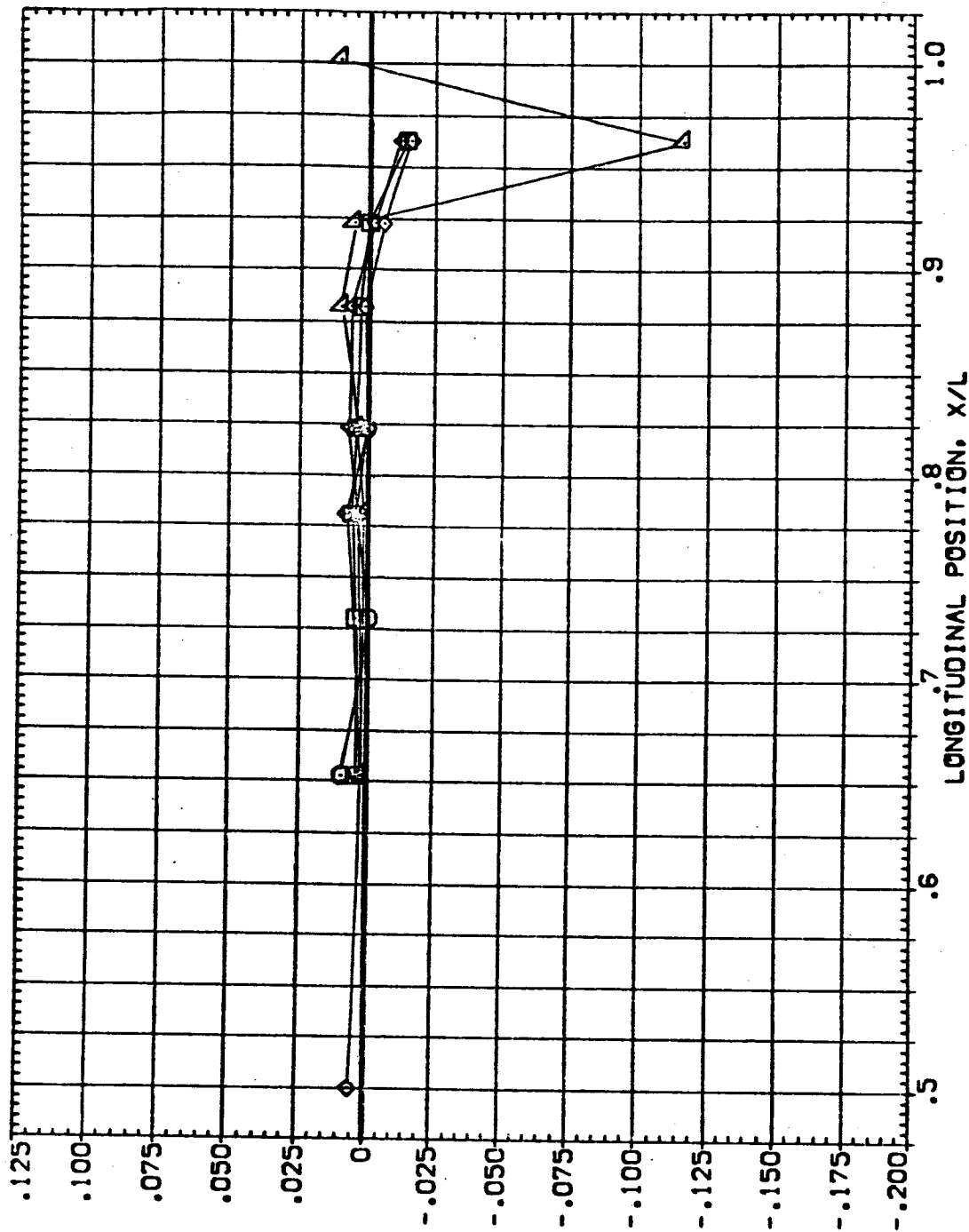


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY(EUB13)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	255.000	.000	.000	RUDER	.000	1.000	4.000
□	270.000			GIMBAL			.900
◇	290.000						
△	320.000						
▽	360.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

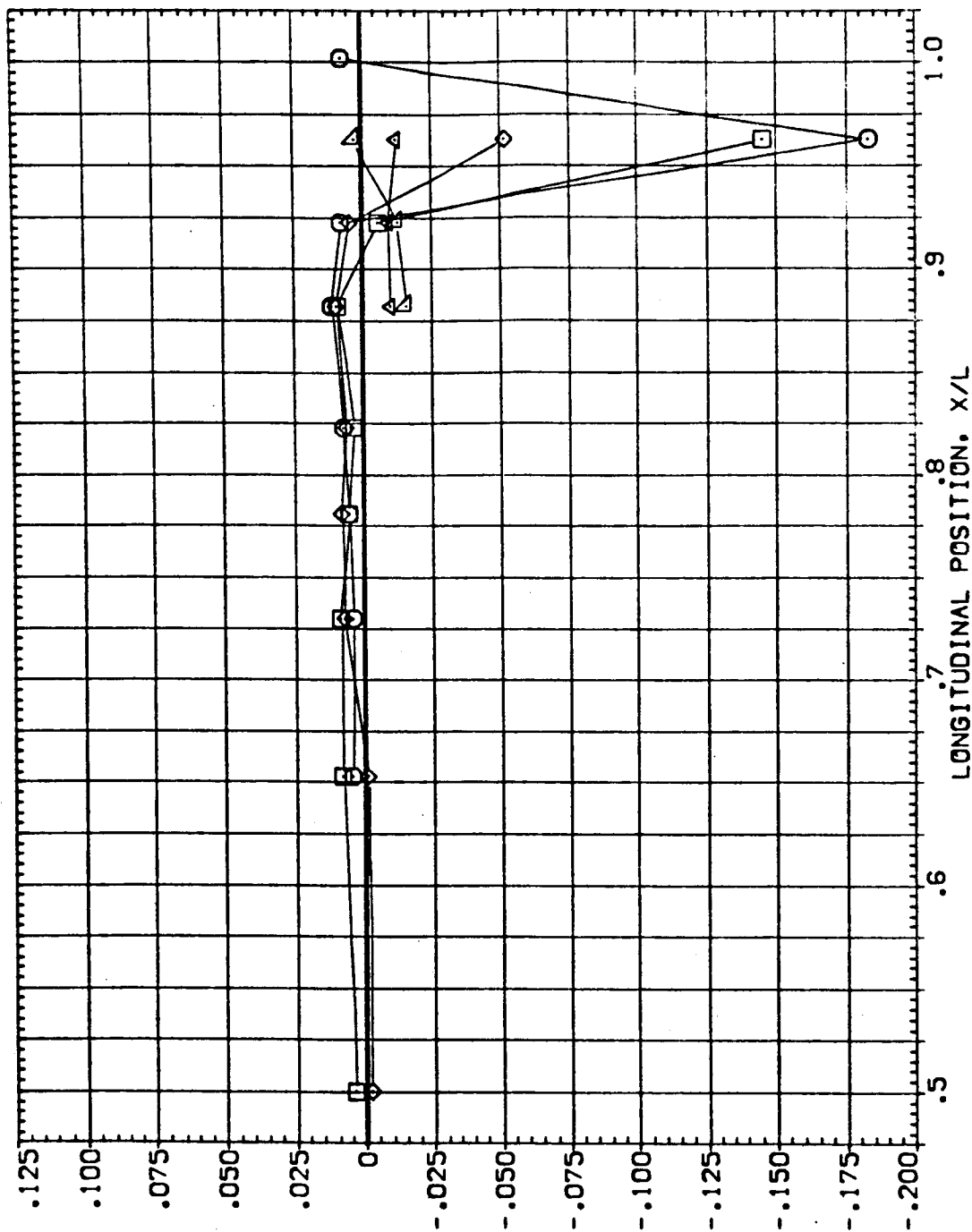


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB13)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
▽	180.000	.000	4.000	ELV-18	ELV-08	ELV-08	MACH
◇	195.000			RUDER			
□	210.000			GIMBAL			
△	225.000						
▽	240.000						

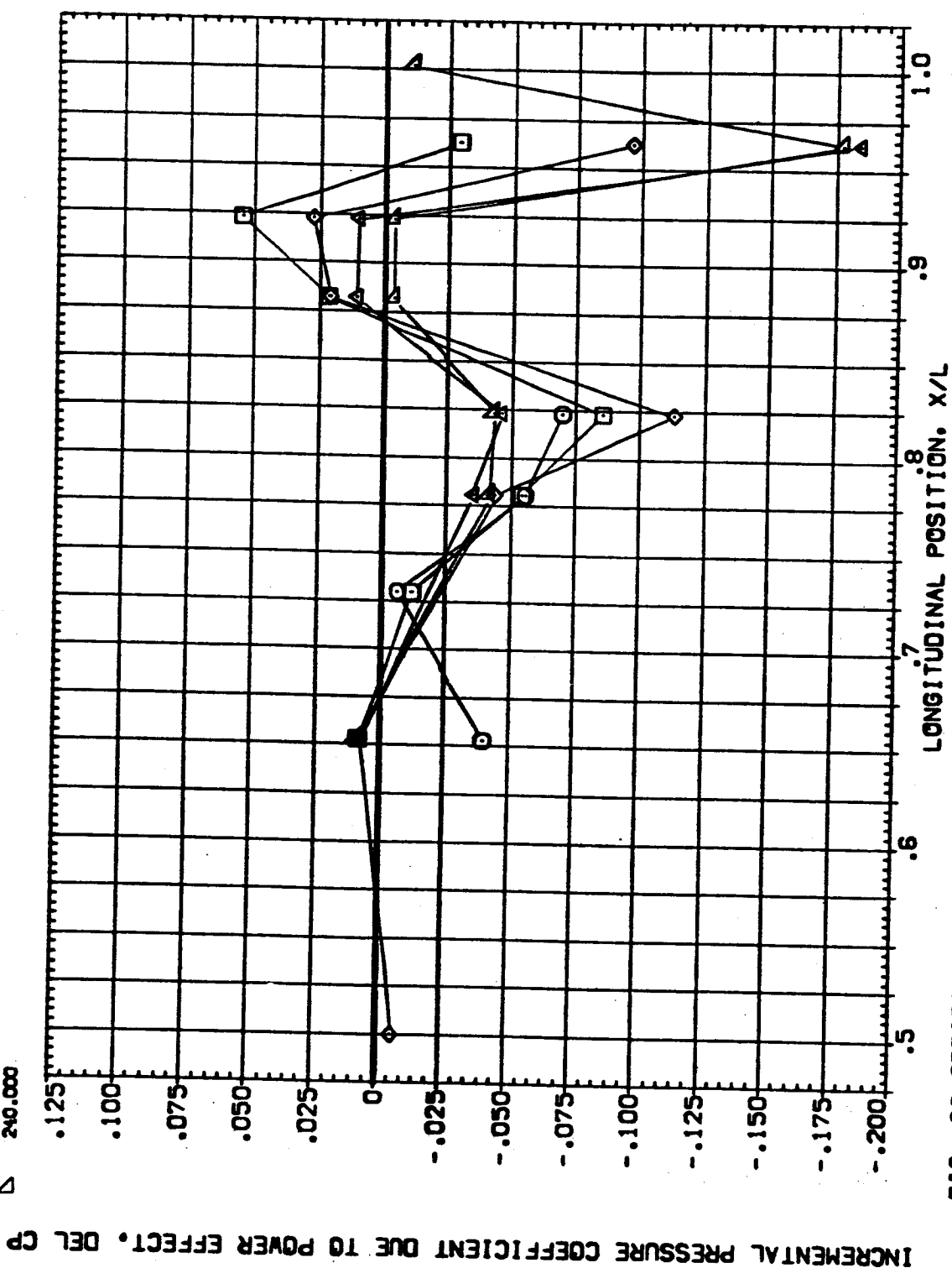


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

PHI BETA ALPHA
 255.000 .000 4.000
 270.000
 290.000
 320.000
 360.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

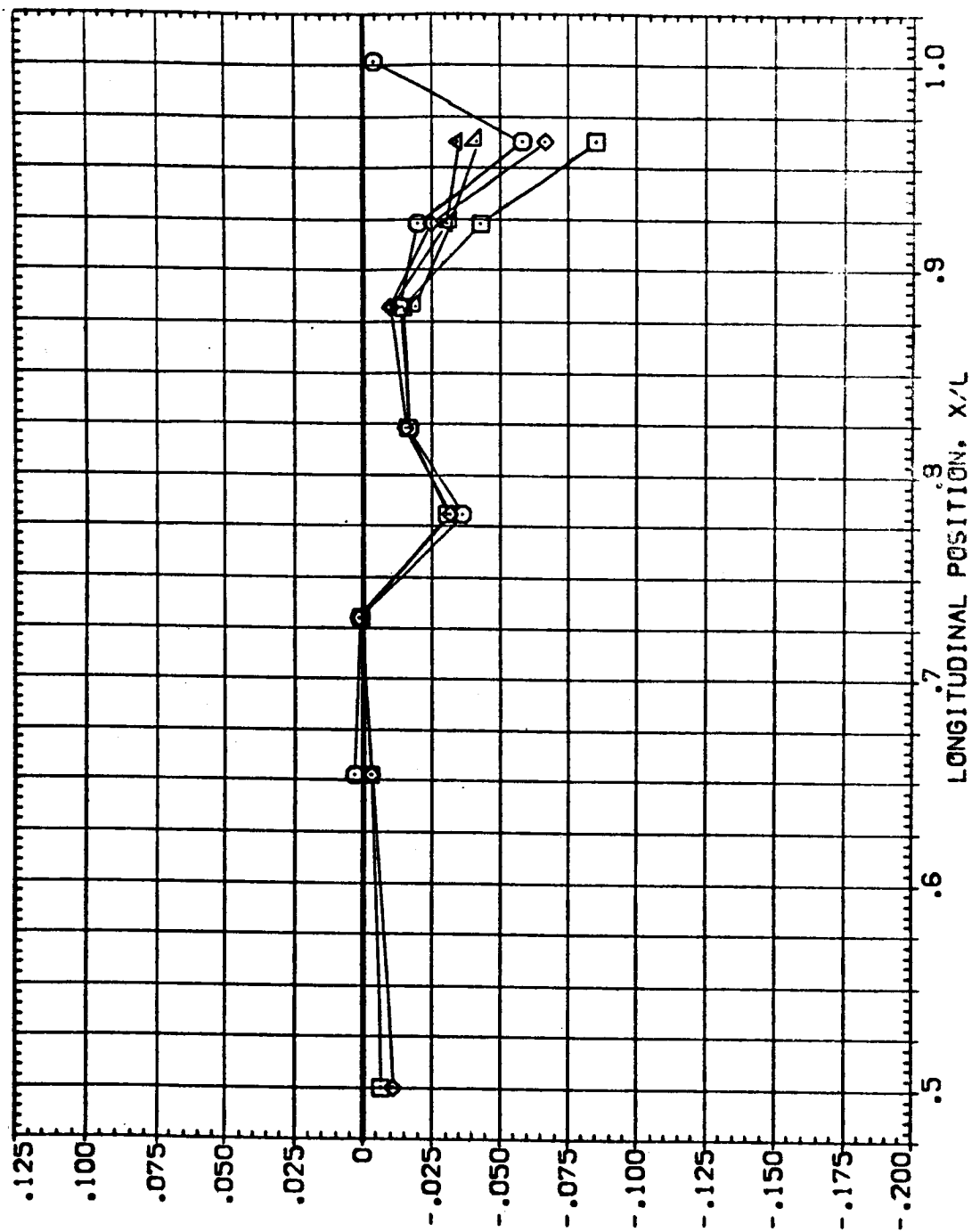


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (FEUB13)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
□	180.000	-4.000	.000	RUDER	.000	1.000	.900
◇	195.000			GIMBAL			
△	210.000						
▽	225.000						
▽	240.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

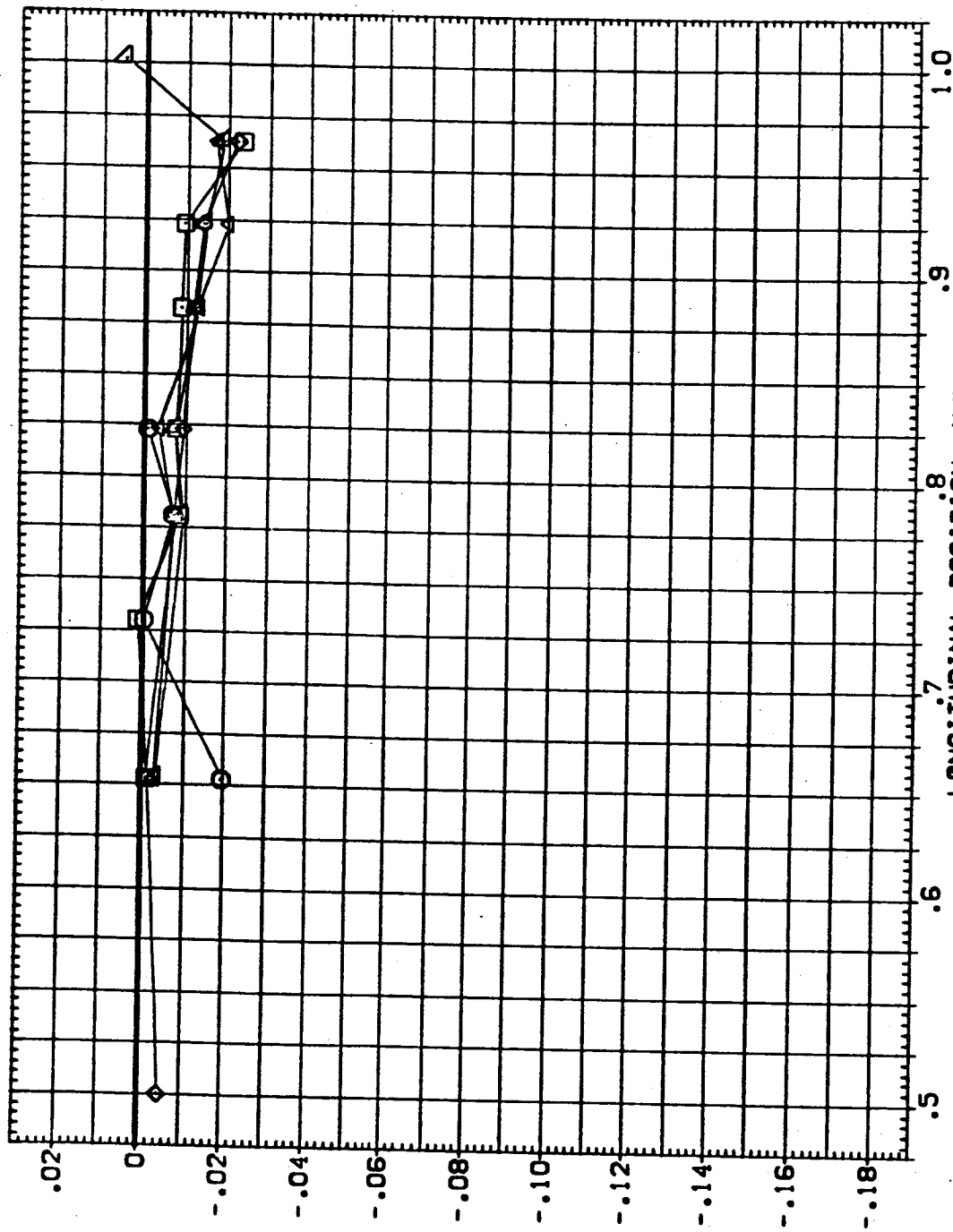


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY(FEUB13)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-OB 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

PHI BETA ALPHA
 255.000 -4.000 .000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 □
 ◇
 △
 ▽

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

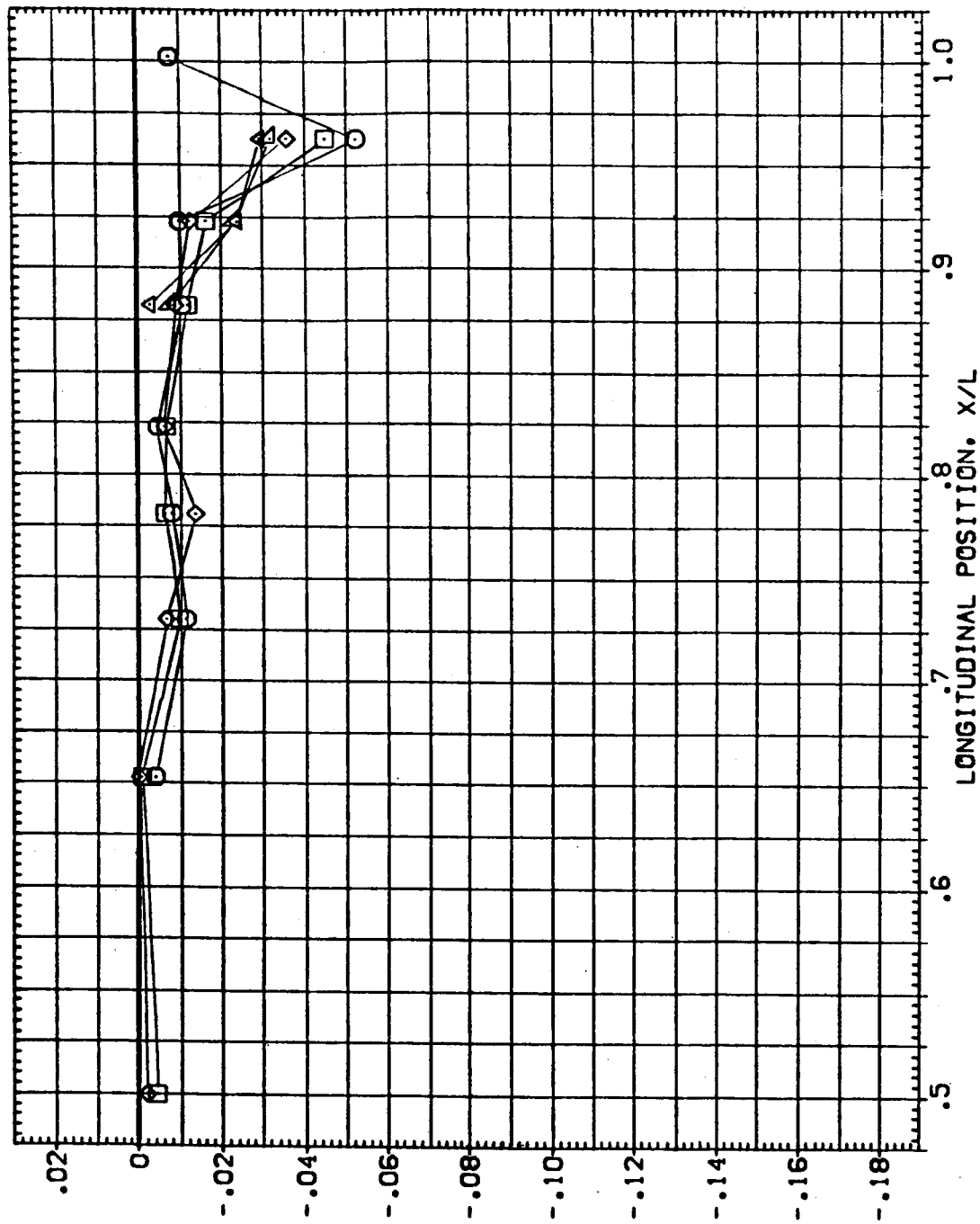


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY(FEUB13)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-09	MACH	
○	180.000	4.000	.000	RUDER	.000	1.000	4.000
◇	195.000			GIMBAL			.900
□	210.000						
△	225.000						
▽	240.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

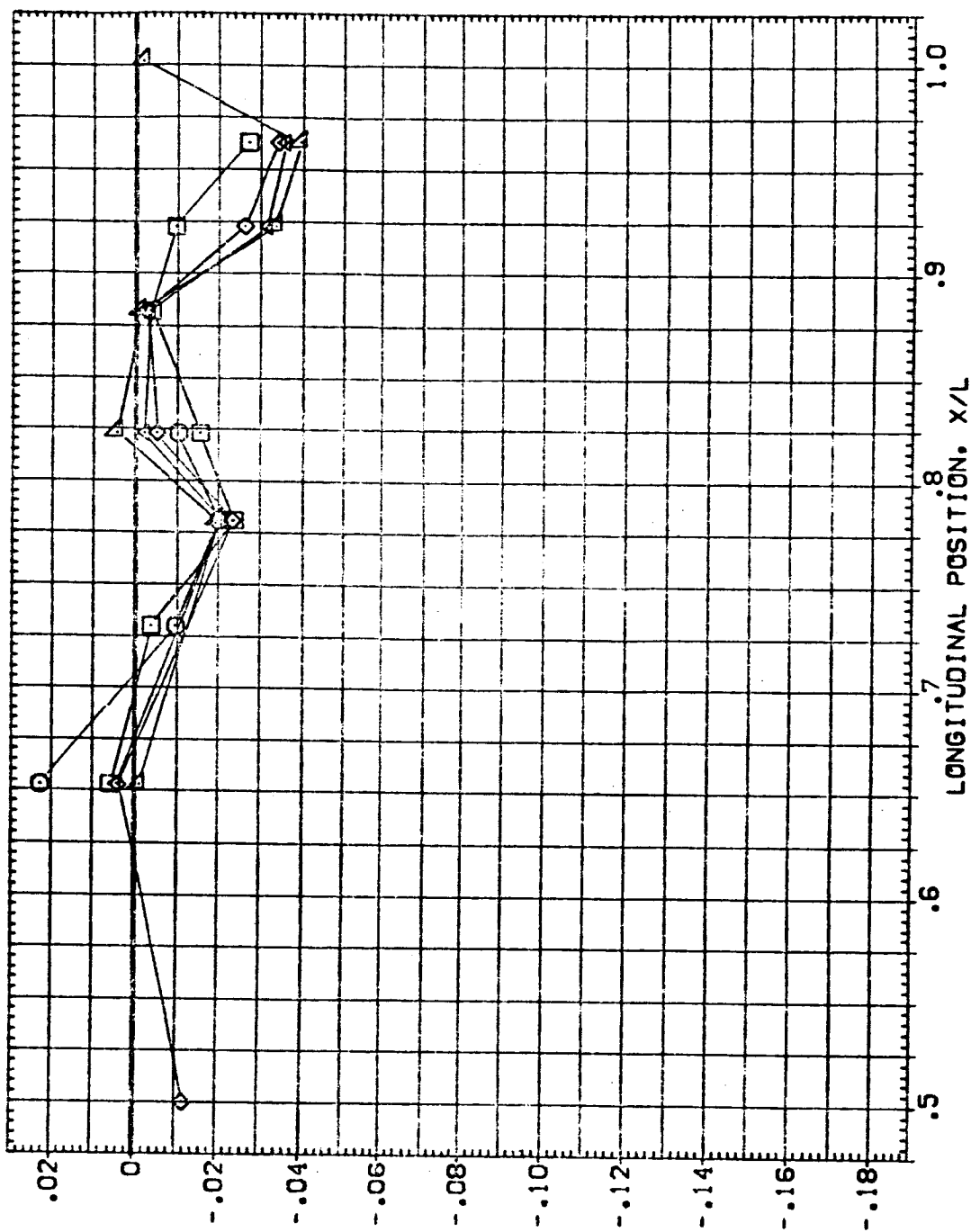


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (FEUB13)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-92	MACH	
○	255,000	4,000	.000	RUDER			
□	270,000			GIMBAL	1,000		
◇	290,000						
△	320,000						
▽	360,000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

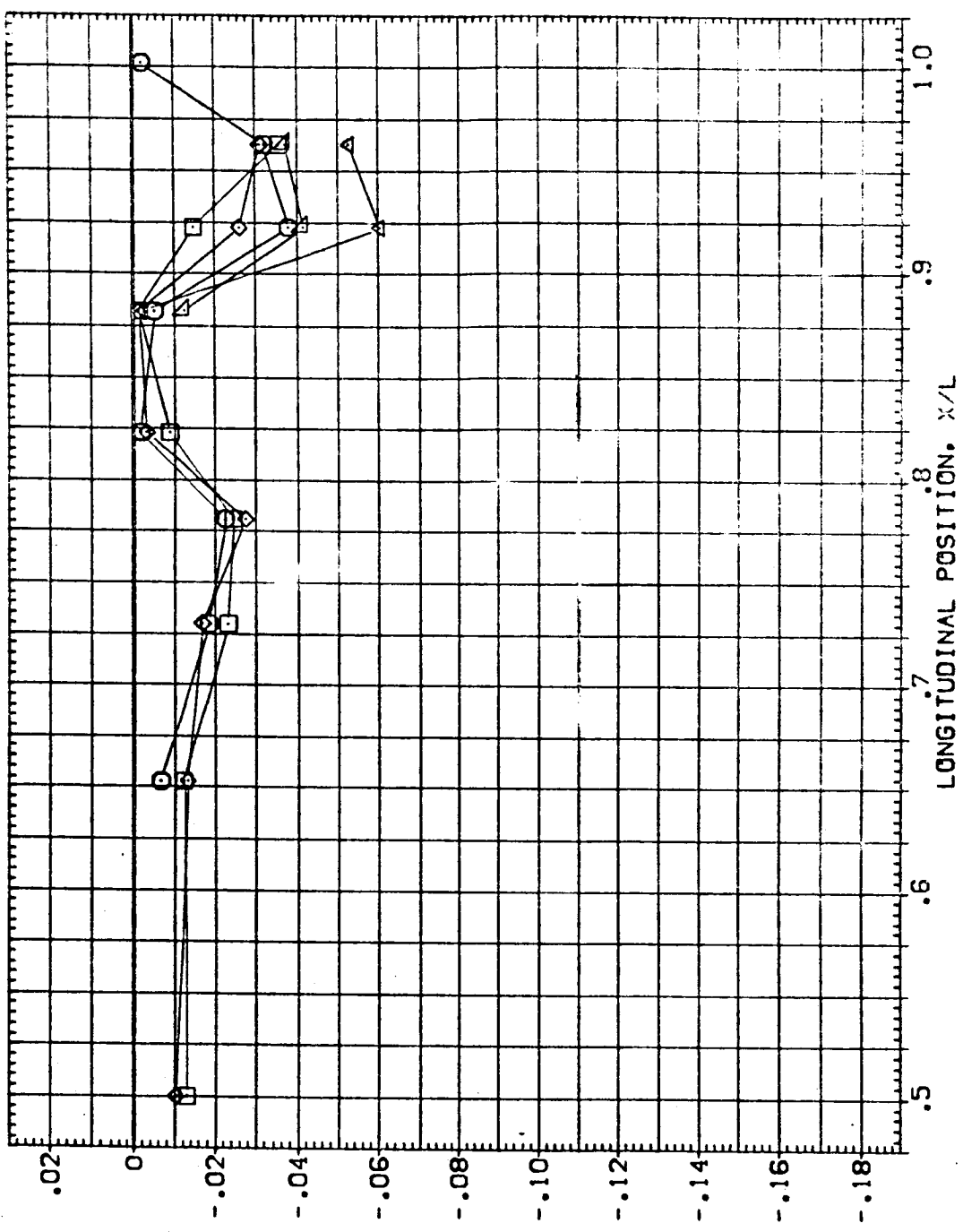


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB14)

SYMBOL PHI BETA ALPHA
 ○ 180.000 .000 -4.000
 □ 195.000
 ◇ 210.000
 △ 225.000
 ▽ 240.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 1.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

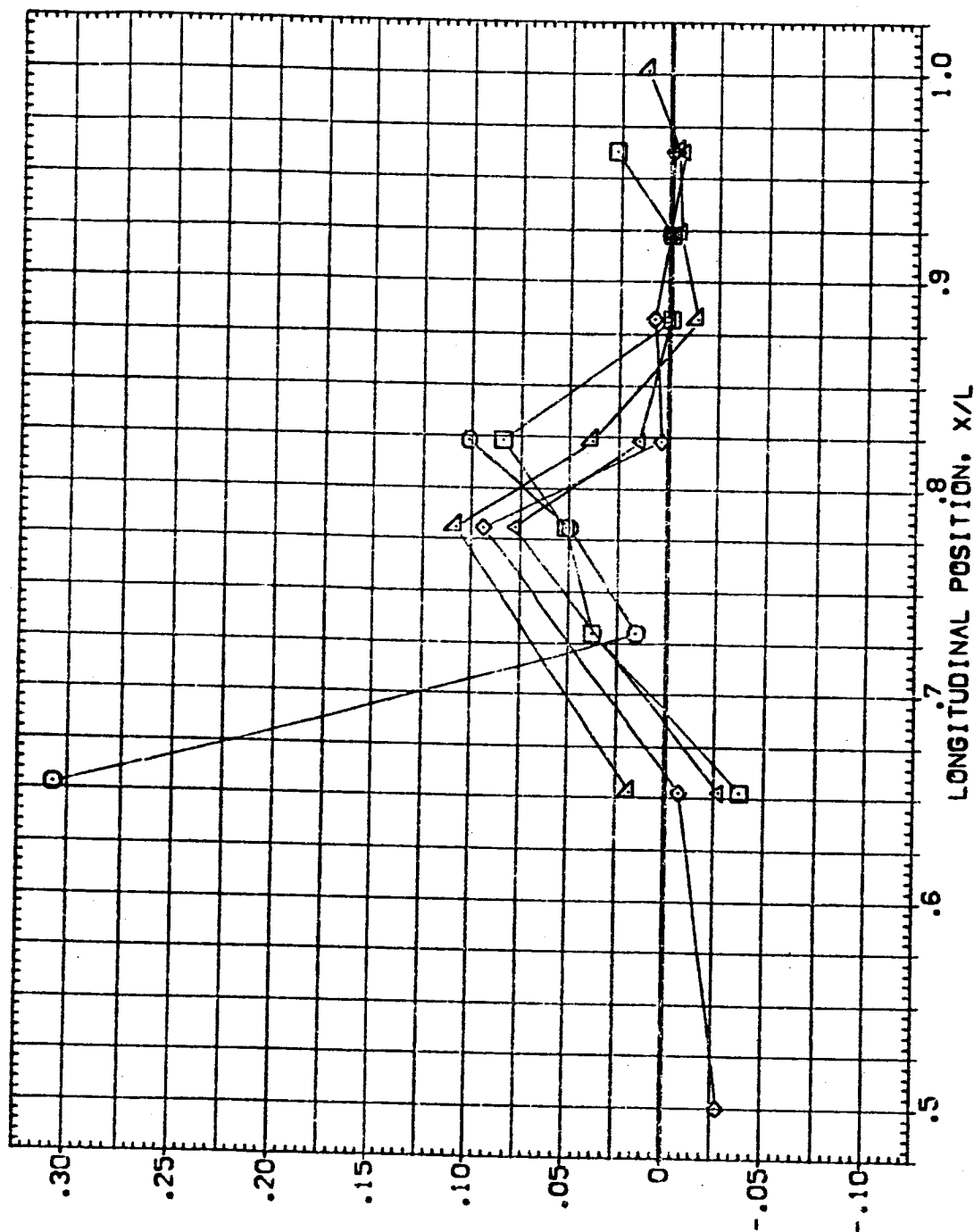


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB14)

SYMBOL		PHI	BETA	ALPHA	PARAMETRIC VALUES			
○	□	255.000	.000	-4.000	ELV-18	9.000	ELV-08	4.000
◇	△	270.000			RUDER	.000	MACH	1.100
		290.000			GIMBAL	1.000		
		320.000						
		360.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

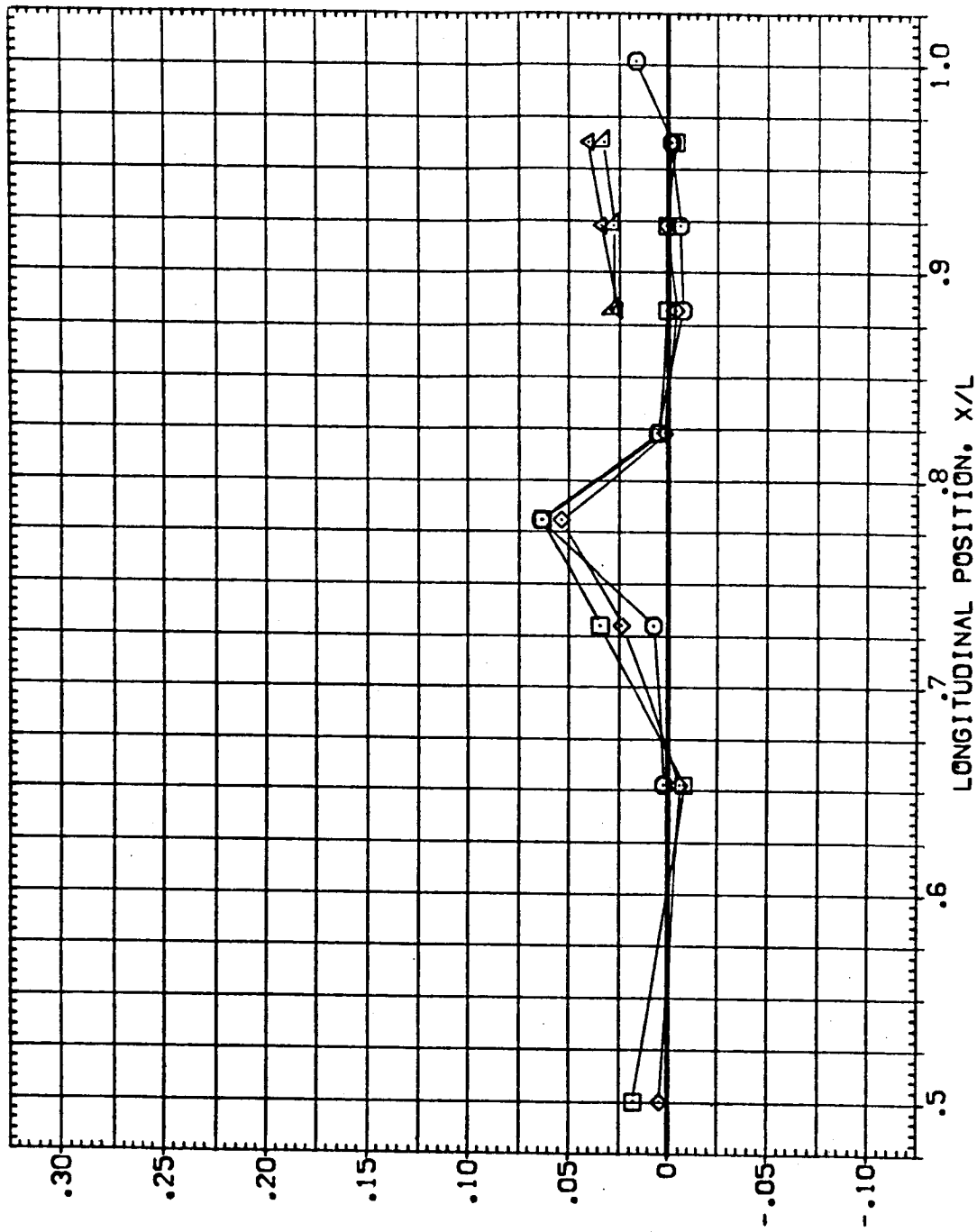


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB14)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	180.000	.000	.000	RUDDER	.000	1.000	4.000
□	195.000			GIMBAL	1.000		1.100
◇	210.000						
△	225.000						
▽	240.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

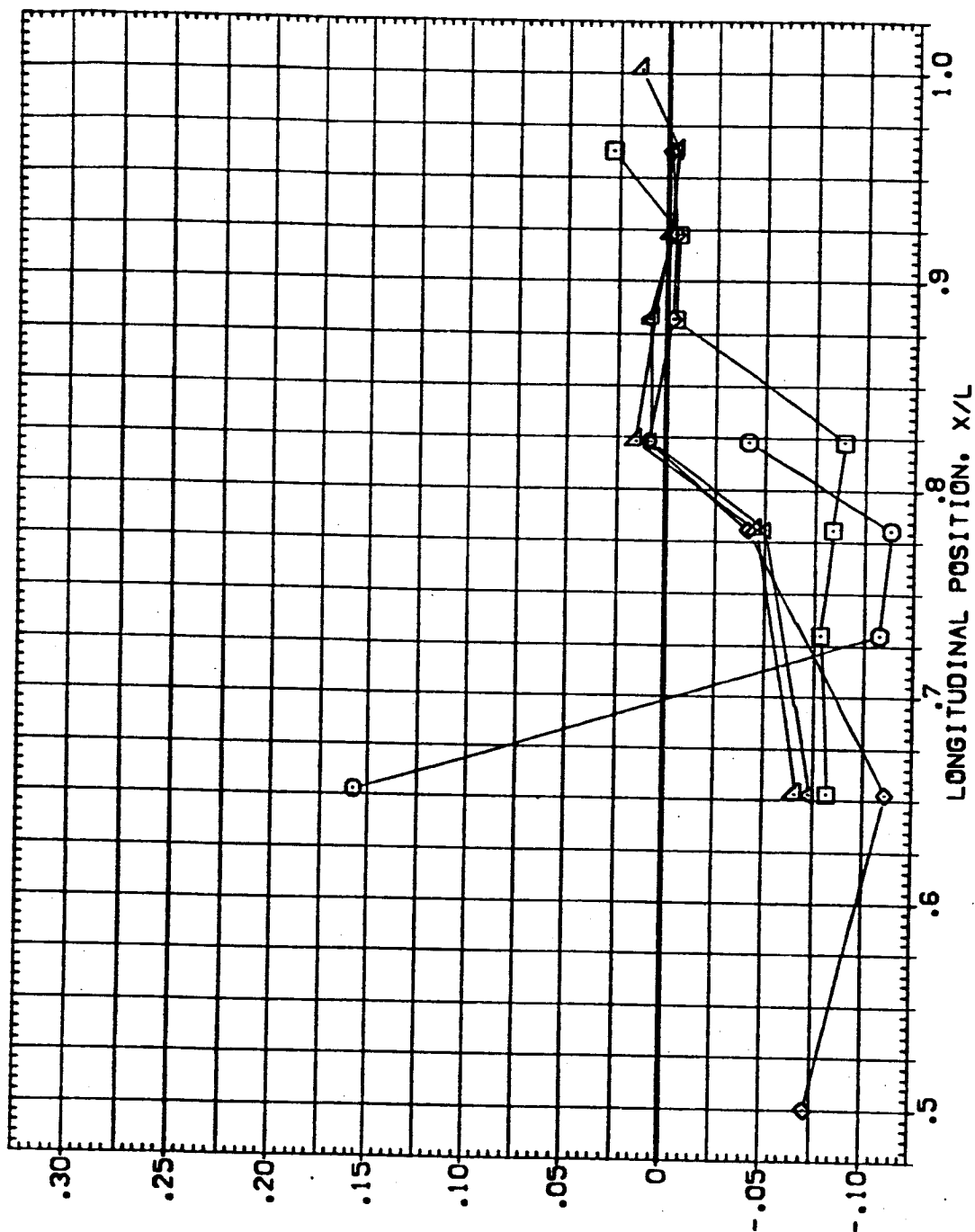


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL PHI BETA ALPHA
 255.000 .000 .000
 270.000
 290.000
 320.000
 360.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

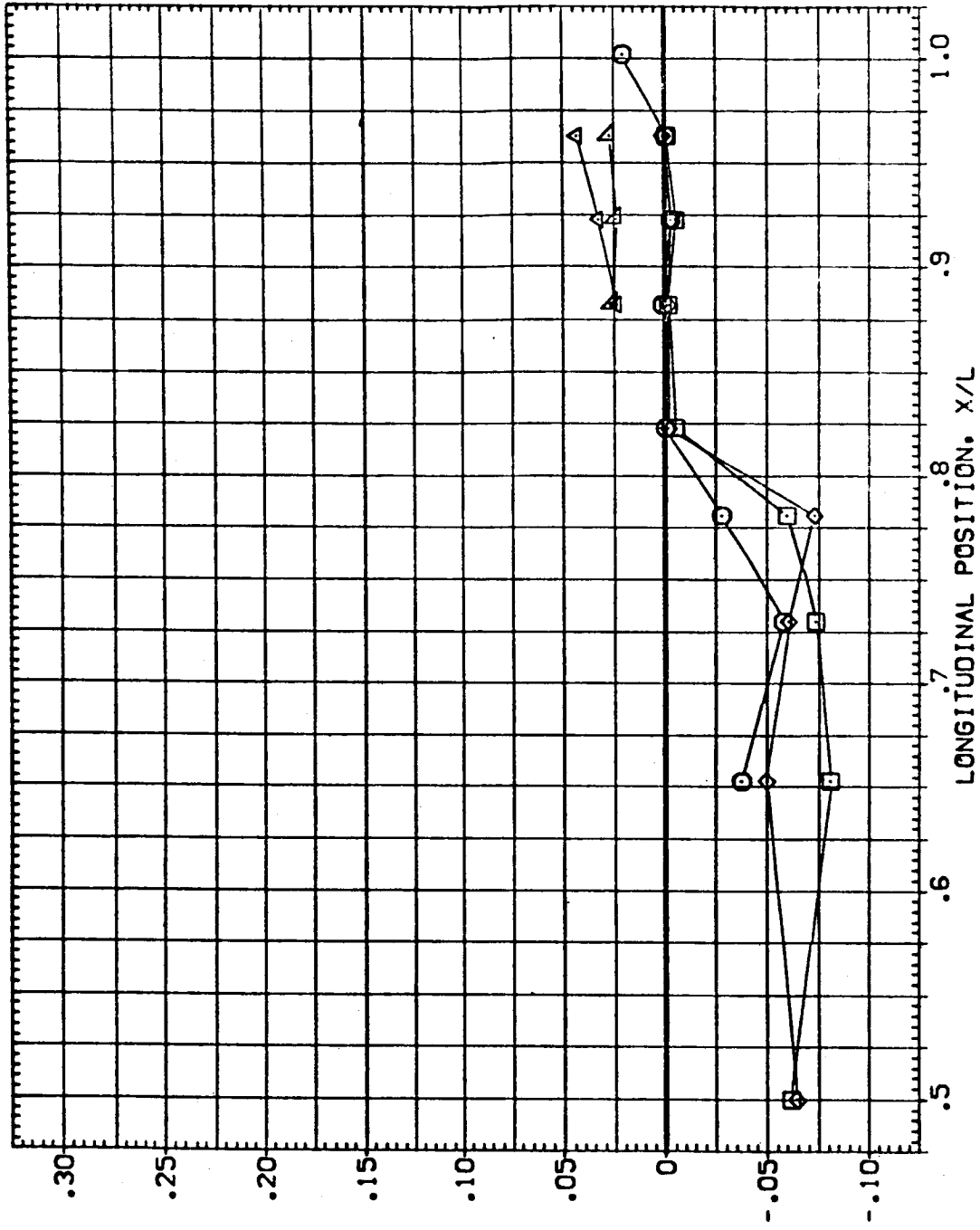


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB14)

SYMBOL PHI BETA ALPHA
 ○ 180.000 .000 4.000
 □ 195.000
 ◇ 210.000
 △ 225.000
 240.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

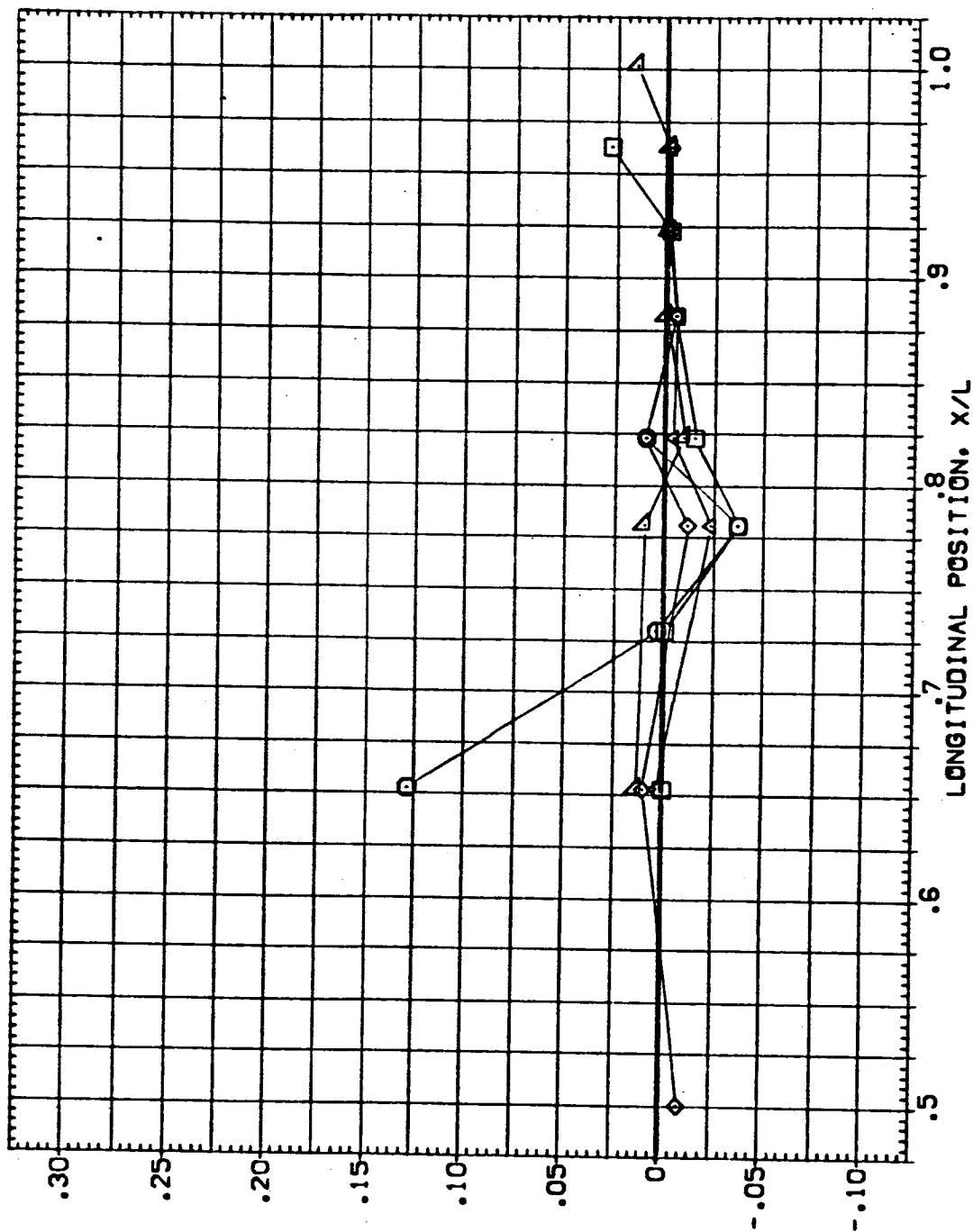


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB14)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

PHI BETA ALPHA
 255.000 .000 4.000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ○ □ ◇ △ ▽

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

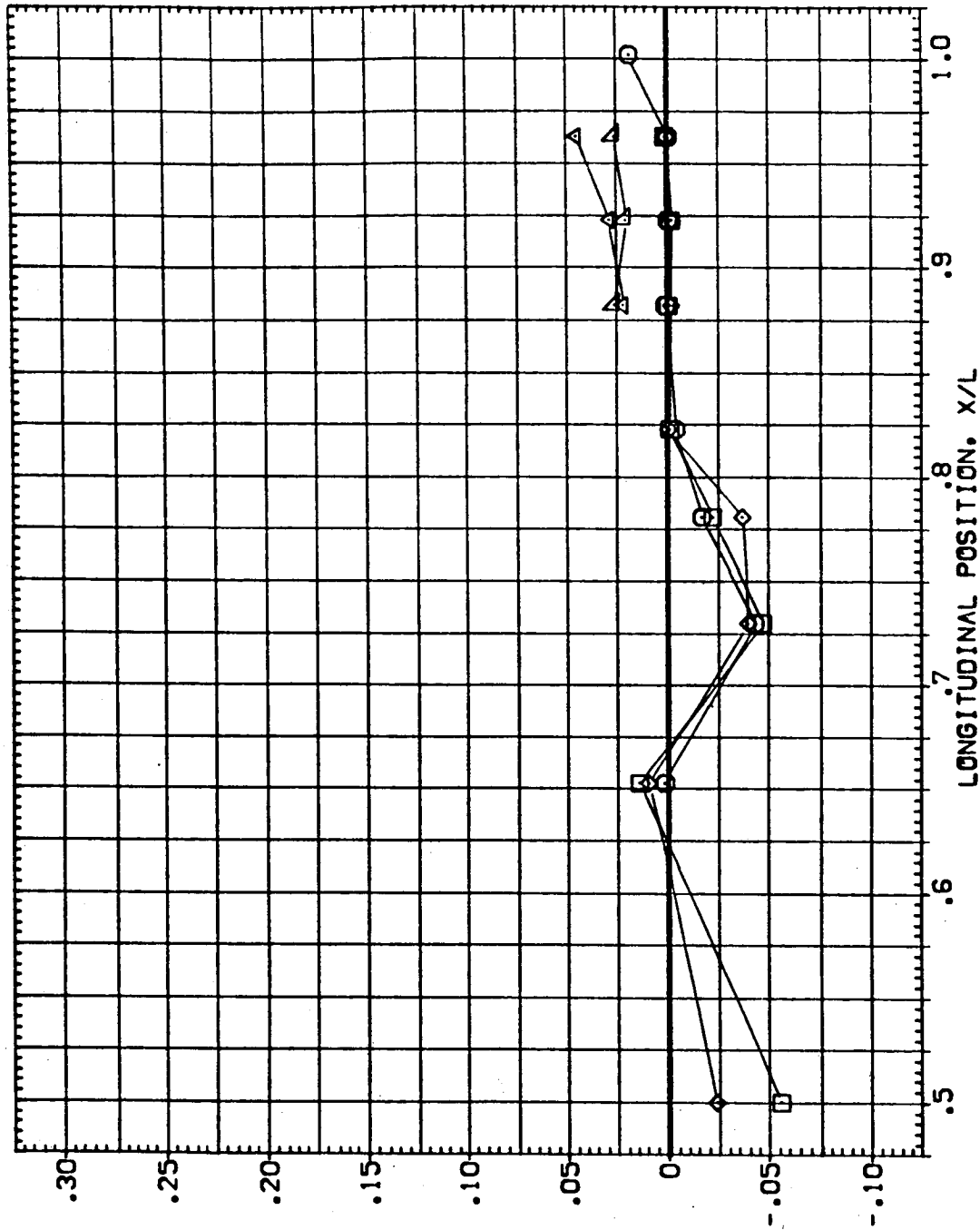


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (FEUB14)

SYMBOL	PARAMETRIC VALUES	
	ELV-18	ELV-08
○	8.000	8.000
□	.000	1.000
◇	1.000	4.000
△		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

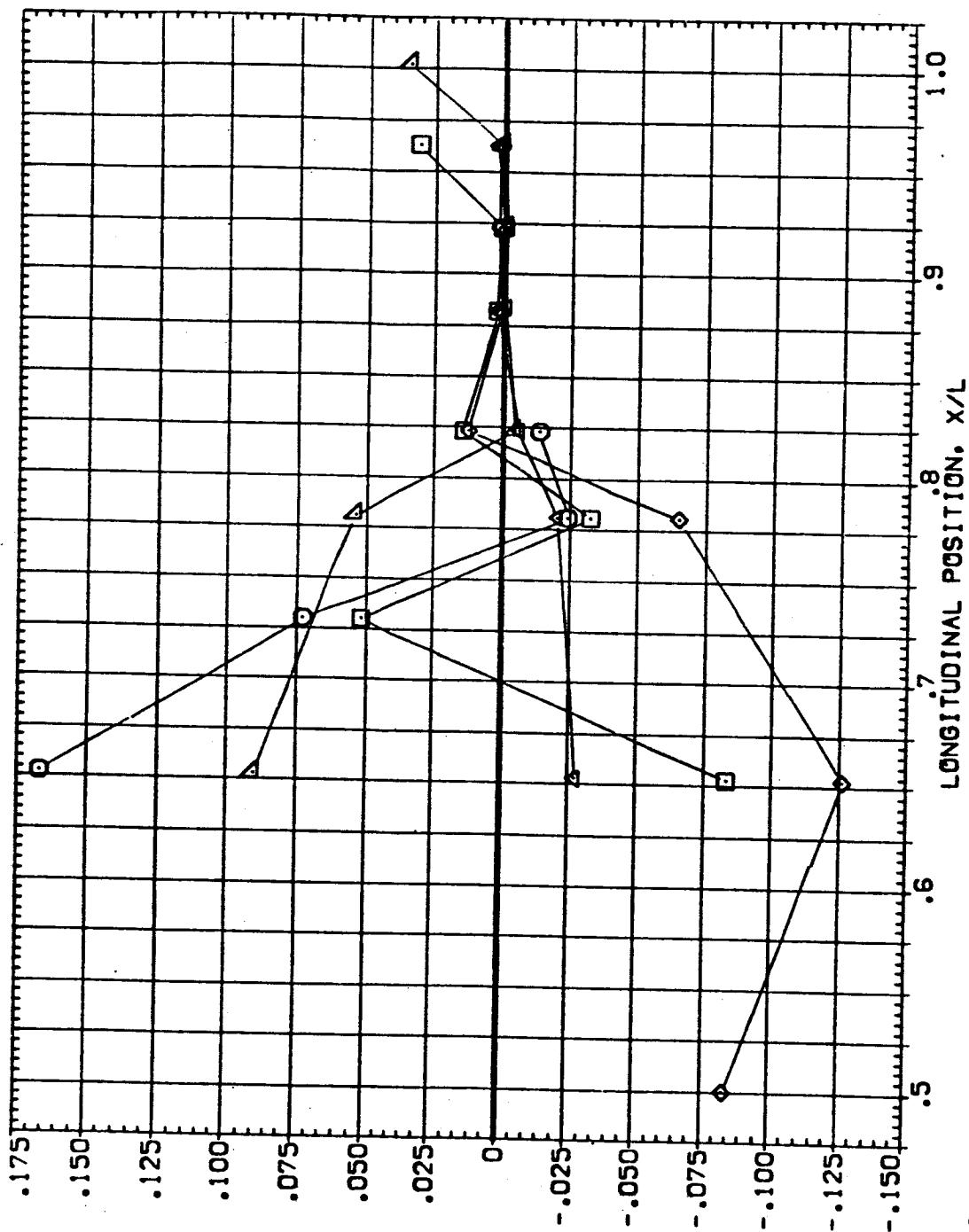


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OIS+STRUT SRB-NOM MPS-OFF ORB BODY(FEUB14)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES
○	255.000	-4.000	.000	ELV-18
□	270.000			RUDER
◇	290.000			GIMBAL
△	320.000			
▽	360.000			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

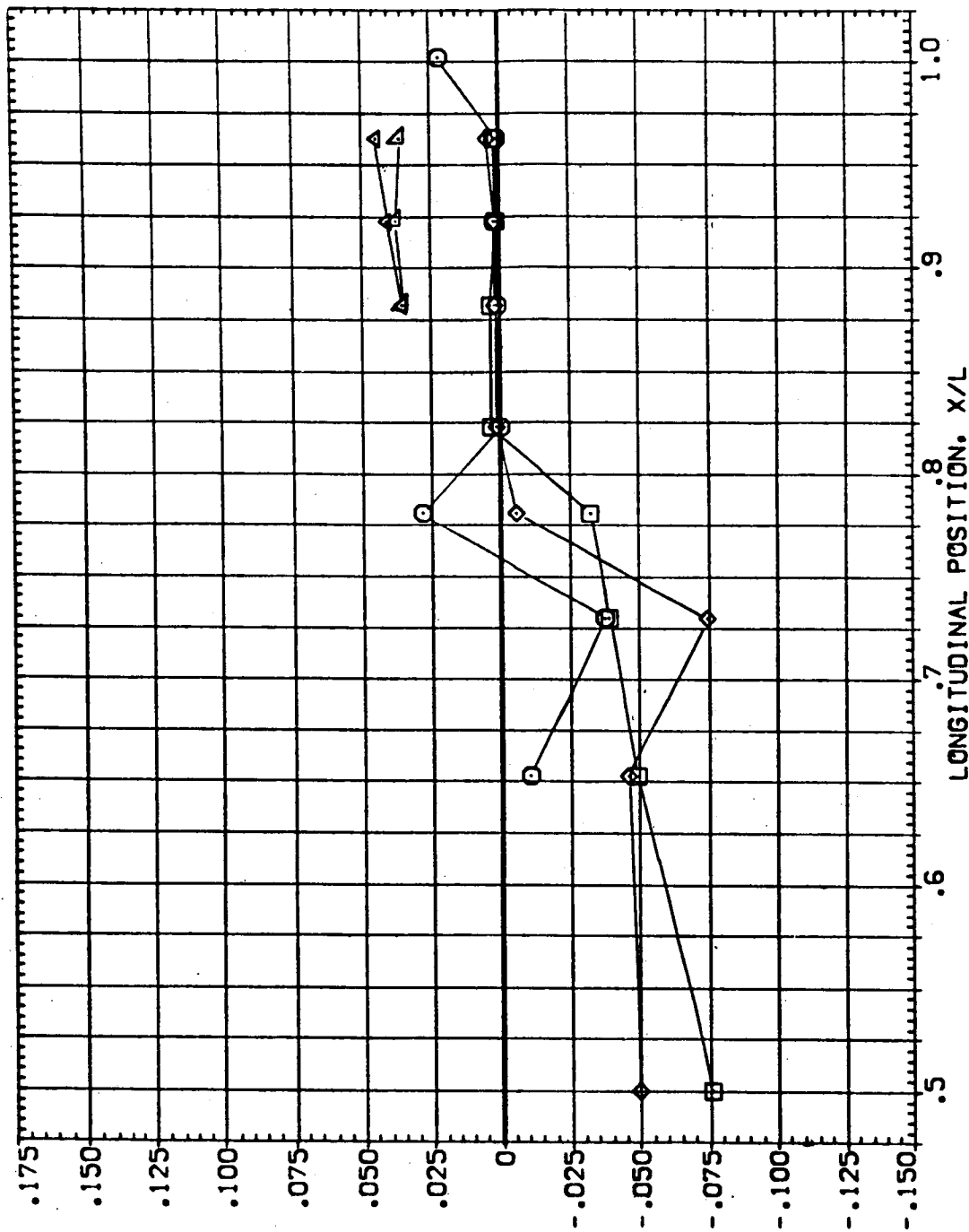


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (FEUB14)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
○	180.000	1.000	.000	RUDER	.000	1.000	1.000
□	195.000			GIMBAL			
◇	210.000						
△	225.000						
▽	240.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

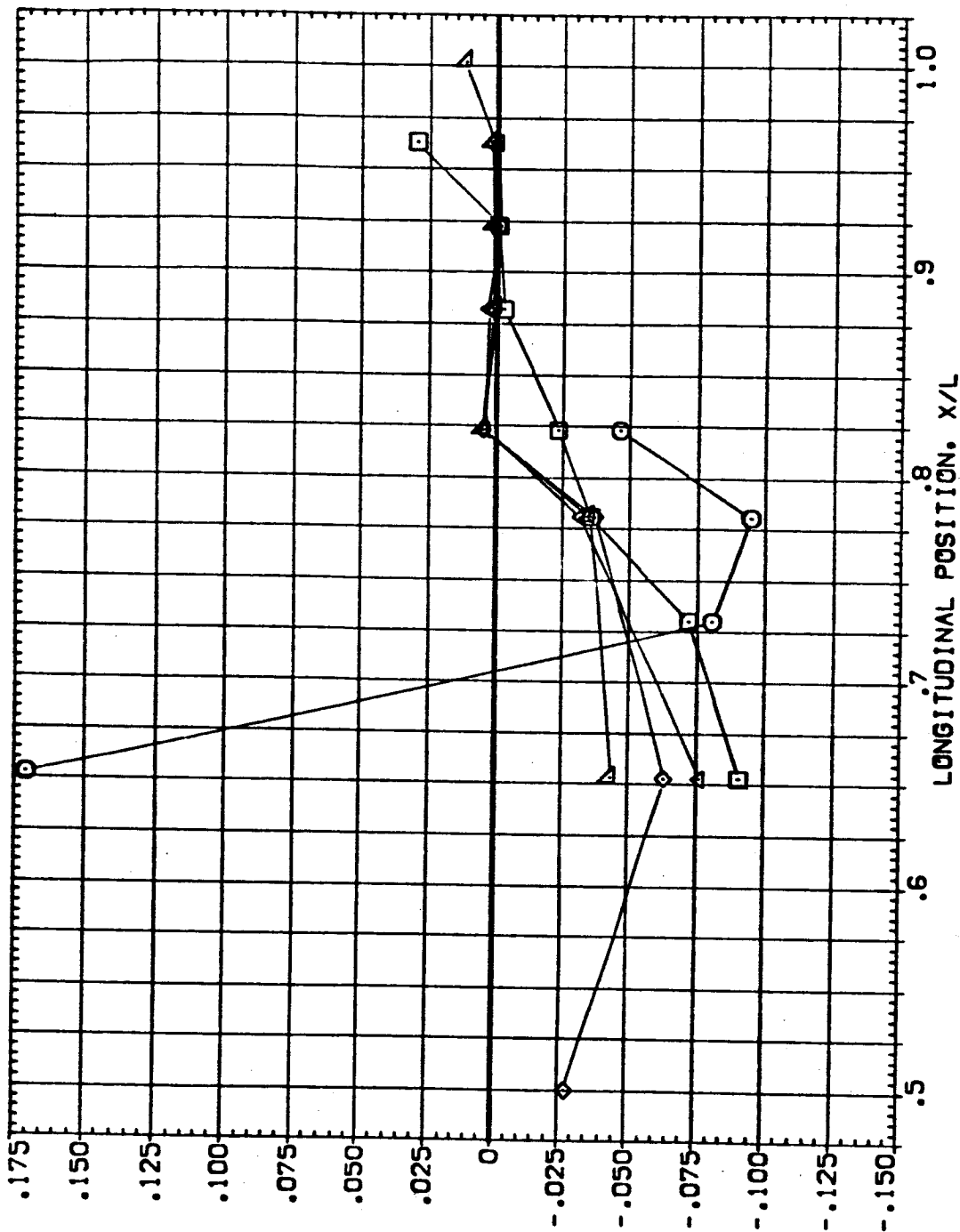


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (FEUB14)

SYMBOL	PHI	BETA	ALPHA	ELV-18	ELV-09	PARAMETRIC VALUES
▽	295,000	4,000	.000	8,000	8,000	4,000
◇	270,000			RUDER	MACH	1,100
□	290,000			81MBAL		
△	320,000					
▽	360,000					

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

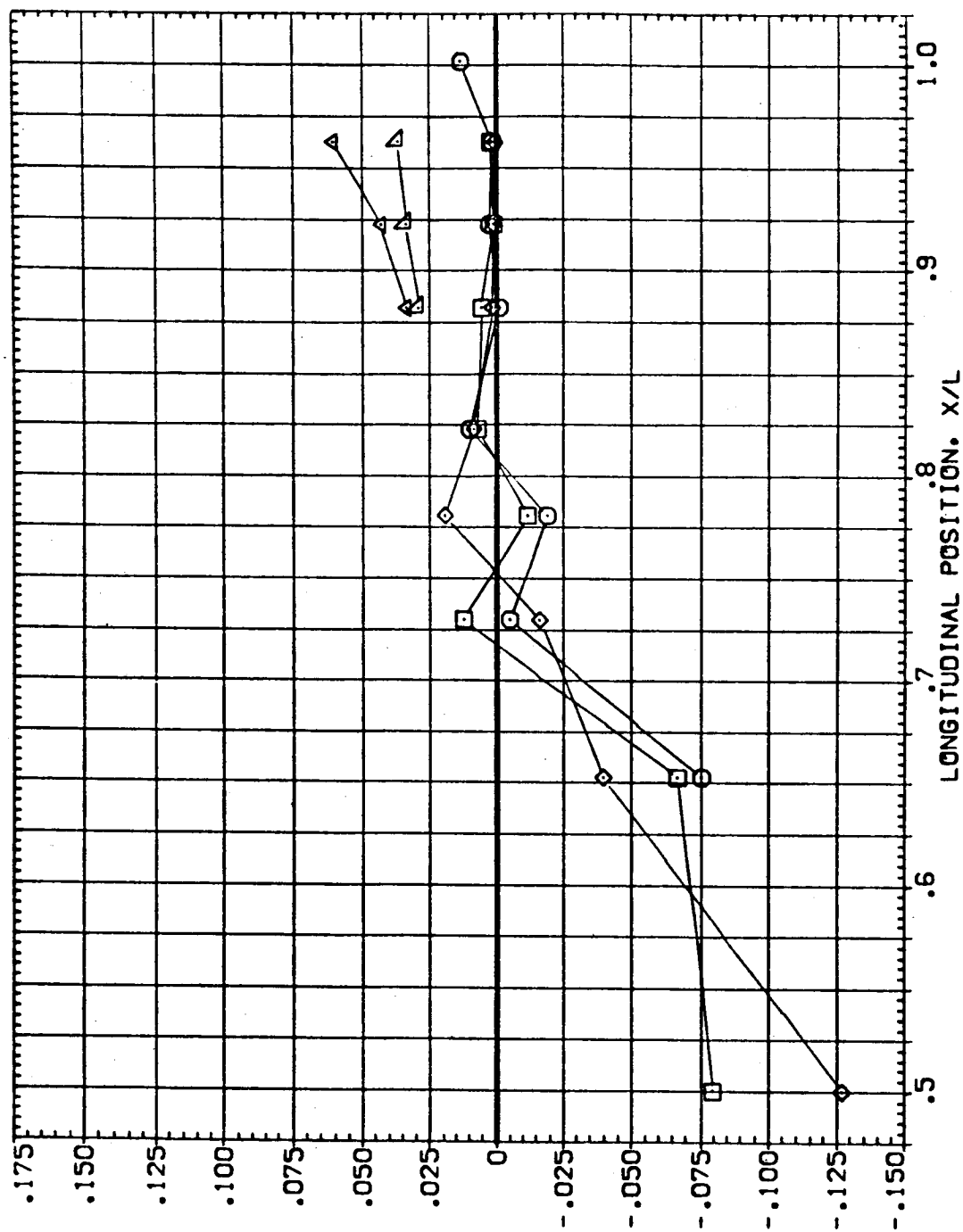


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY(EUB15)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
□	180.000	.000	-4.000	8.000	.000	1.000	4.000
◇	195.000			RUDER			1.250
△	210.000			GIMBAL			
▽	225.000						
▽	240.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

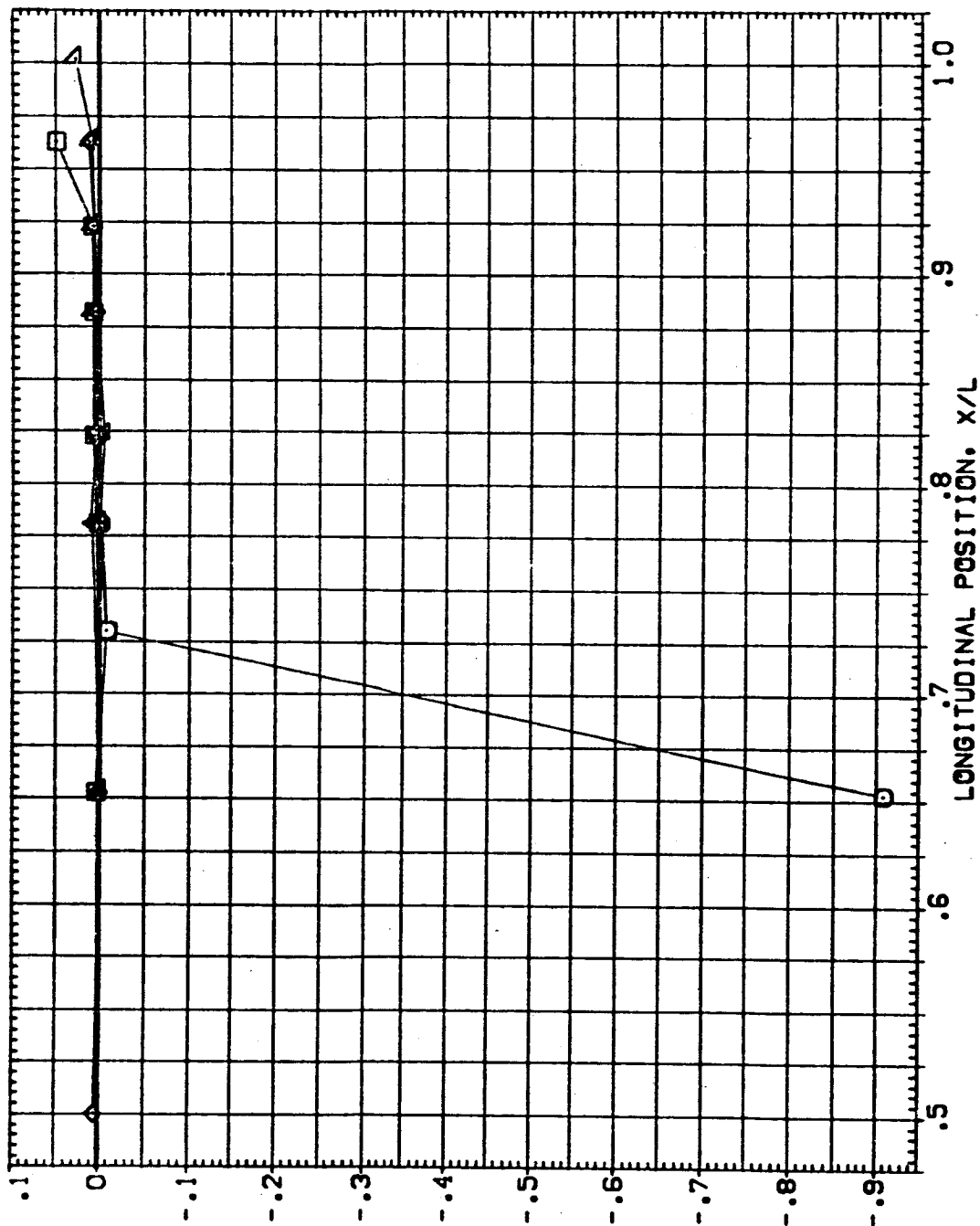


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB15)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
□	255.000	.000	-4.000	RUDER	.000	1.000	
◇	270.000			GIMBAL	1.000	1.250	
△	290.000						
▽	320.000						
▽	360.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

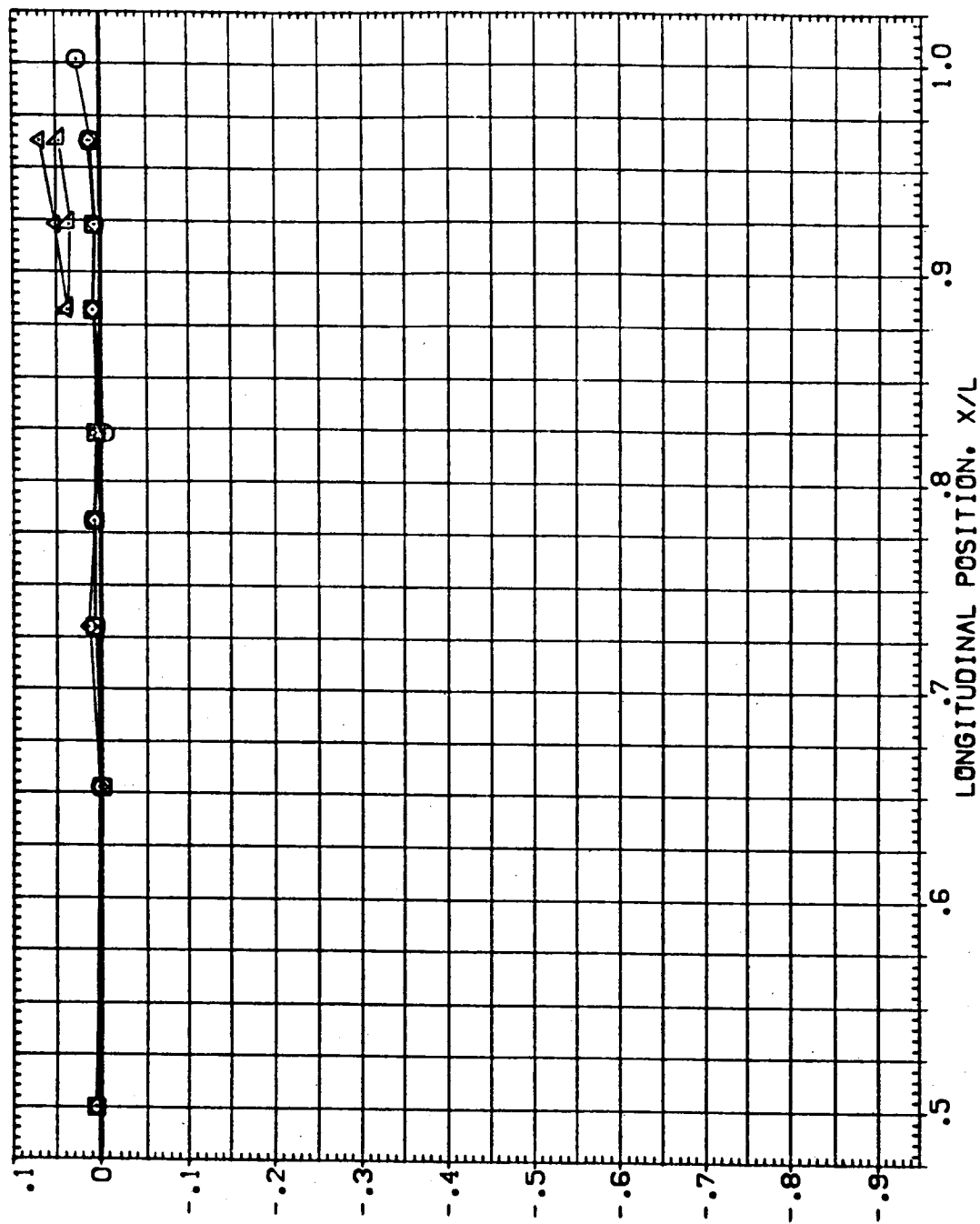


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB15)

SYMBOL	PHI	BETA	ALPHA	ELV-18	ELV-08	PARAMETRIC VALUES
○	180.000	.000	.000	RUDER	.000	MACH
□	195.000			GINGAL	1.000	
◇	210.000					
△	225.000					
▽	240.000					

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

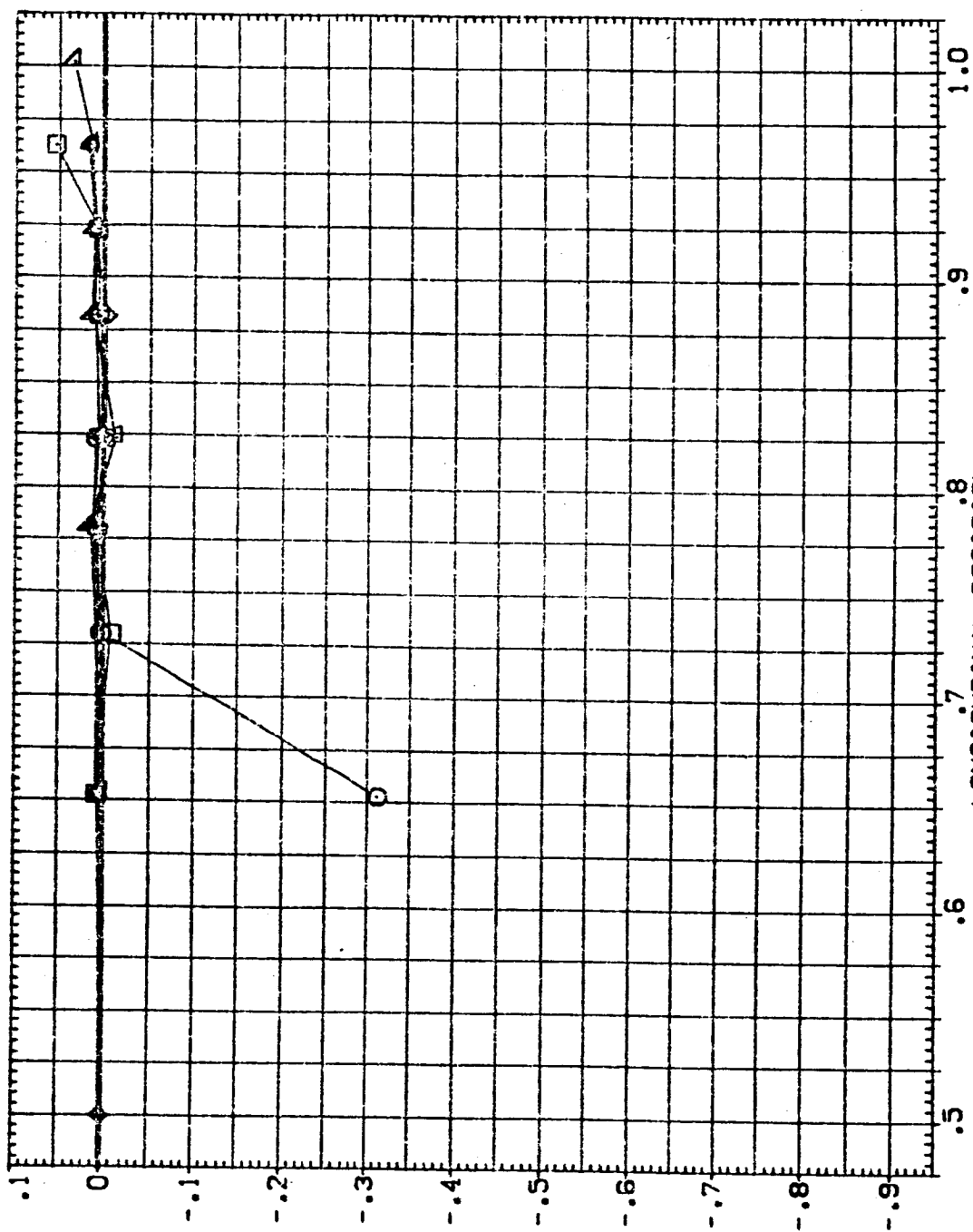


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB15)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

Symbol PHI BETA ALPHA
 255.000
 270.000
 290.000
 320.000
 360.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

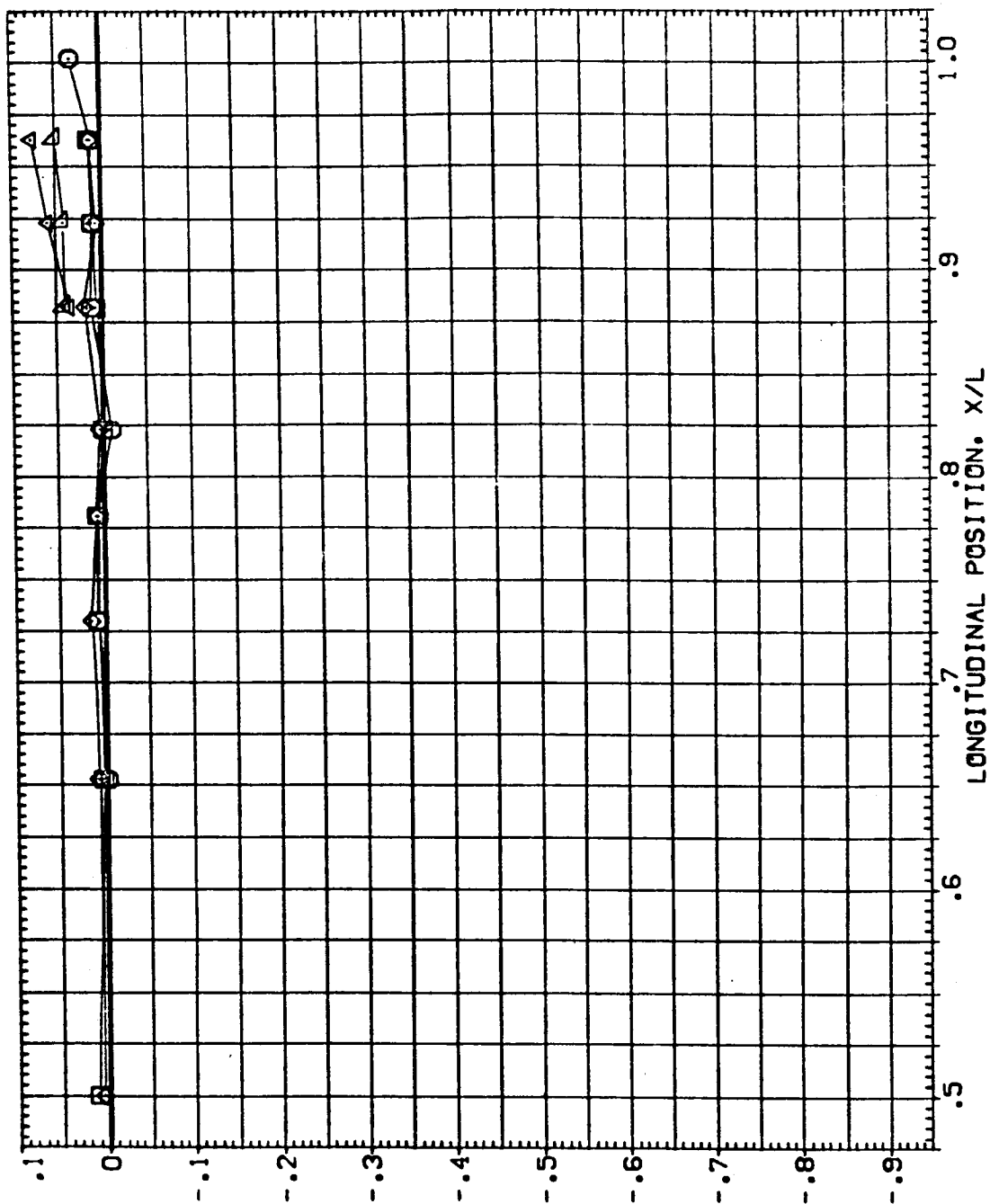


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB15)

SYMBOL PHI BETA ALPHA

○ 180.000 .000 4.000

◇ 195.000

□ 210.000

△ 225.000

▽ 240.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.250

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

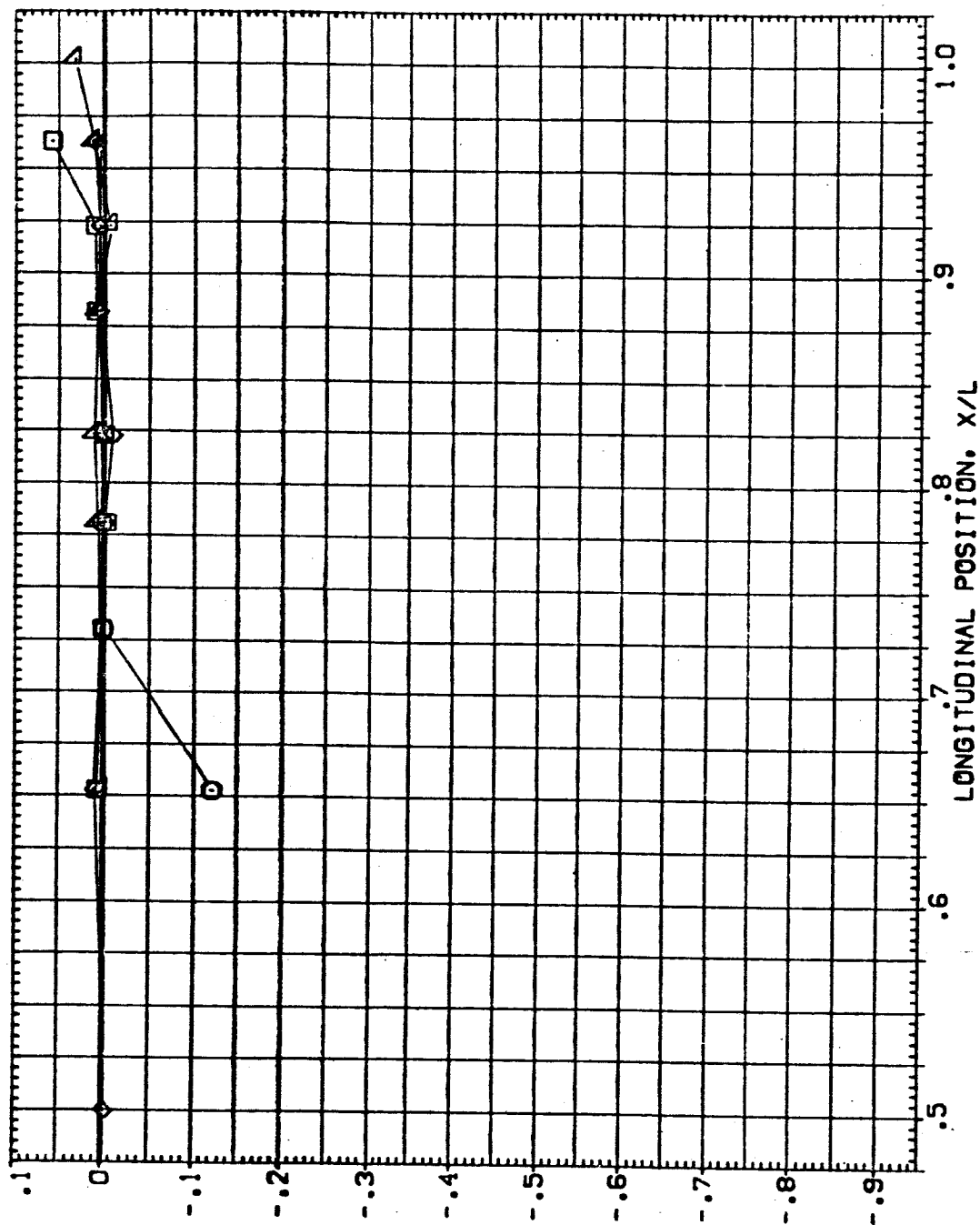


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

SYMBOL	RAI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
○	255.000	.000	4.000	RUDER	.000	1.000	1.250
□	270.000			GINGAL			
◇	290.000						
△	320.000						
▽	360.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

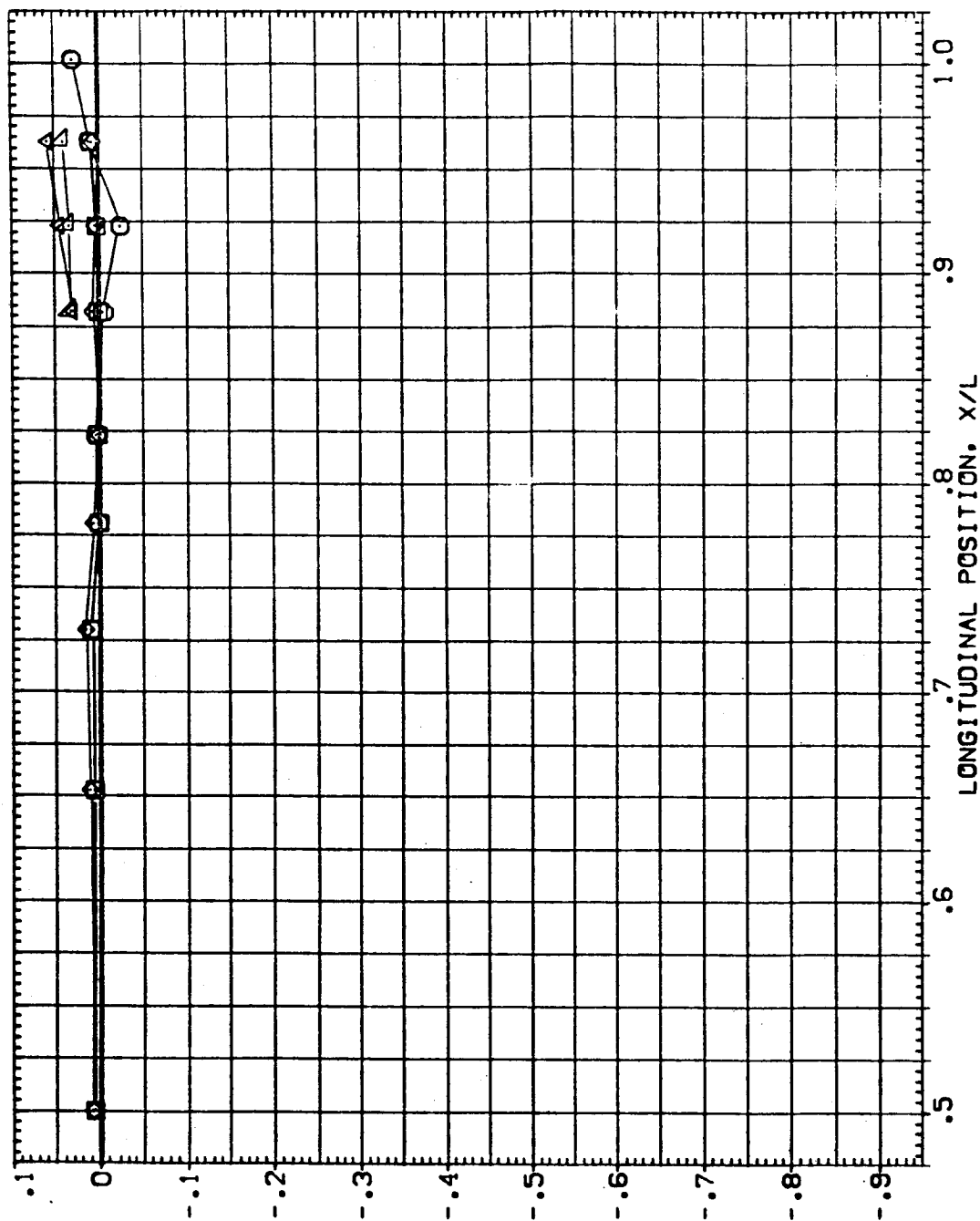


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY(FEUB15)

SYMBOL	PARAMETRIC VALUES	
	ELV-18	ELV-08
○	8.000	4.000
□	.000	1.250
◇	1.000	
△		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

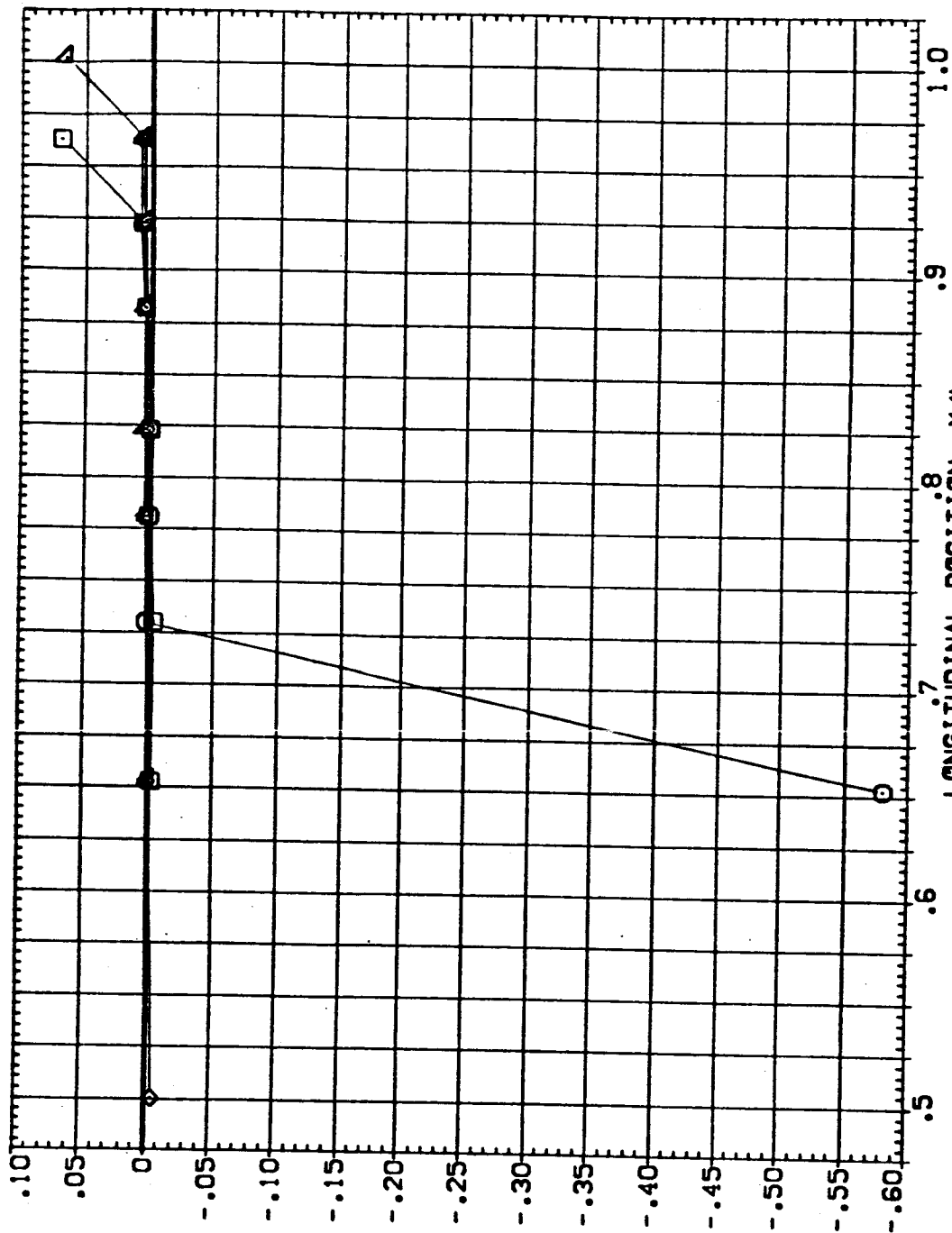


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

SYMBOL	PHI	BETA	ALPHA	ELV-18	ELV-08	PARAMETRIC VALUES
○	255.000	-4.000	.000	RUDER	.000	8.000
□	270.000			GIMBAL	1.000	1.250
◇	290.000					
△	320.000					
	360.000					

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

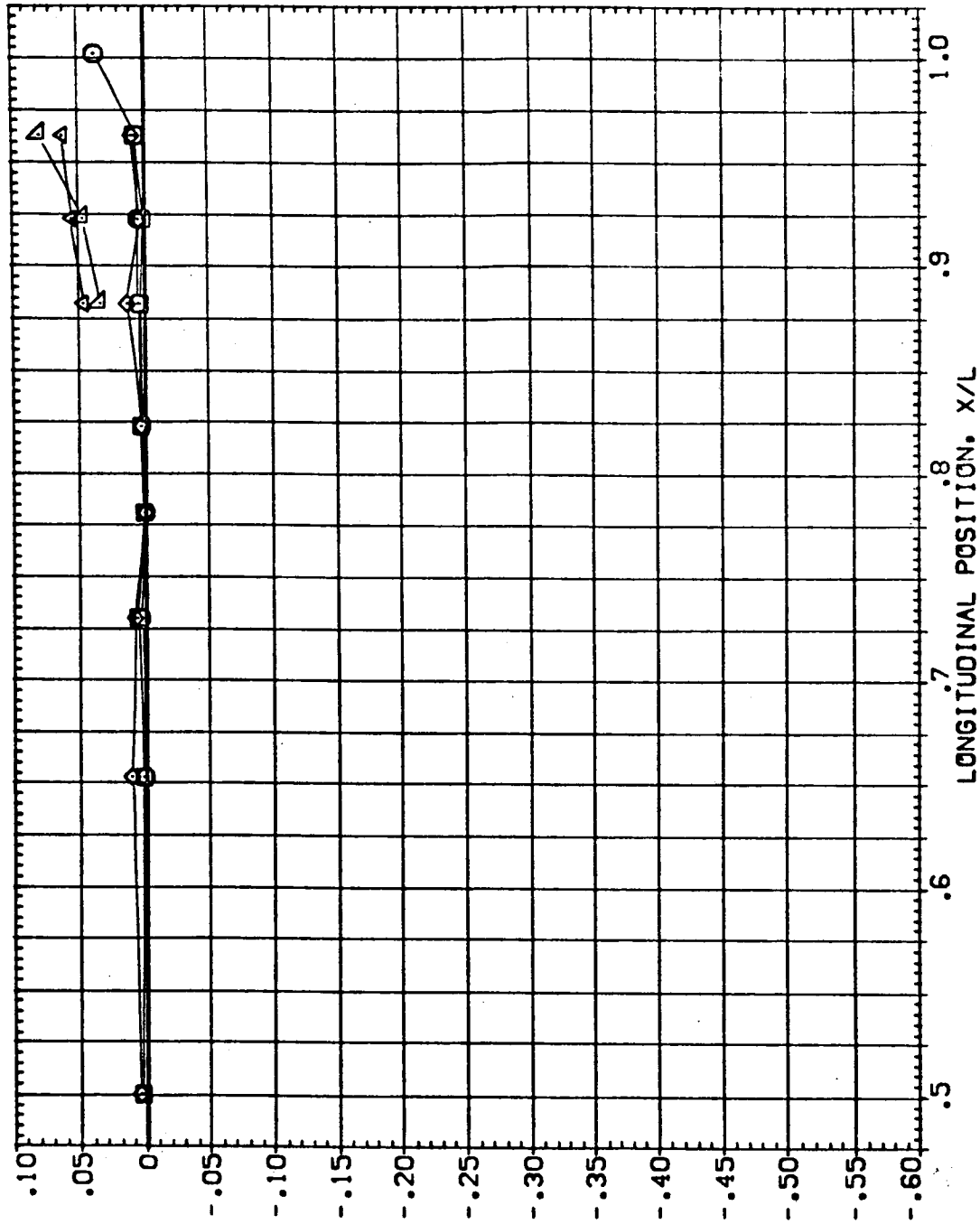


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SR3-NOM MPS-OFF ORB BODY (FEUB15)

SYMBOL	PARAMETRIC VALUES	
	ELV-18	ELV-08
○	8.000	1.000
□	.000	1.250
◇	1.000	
△		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

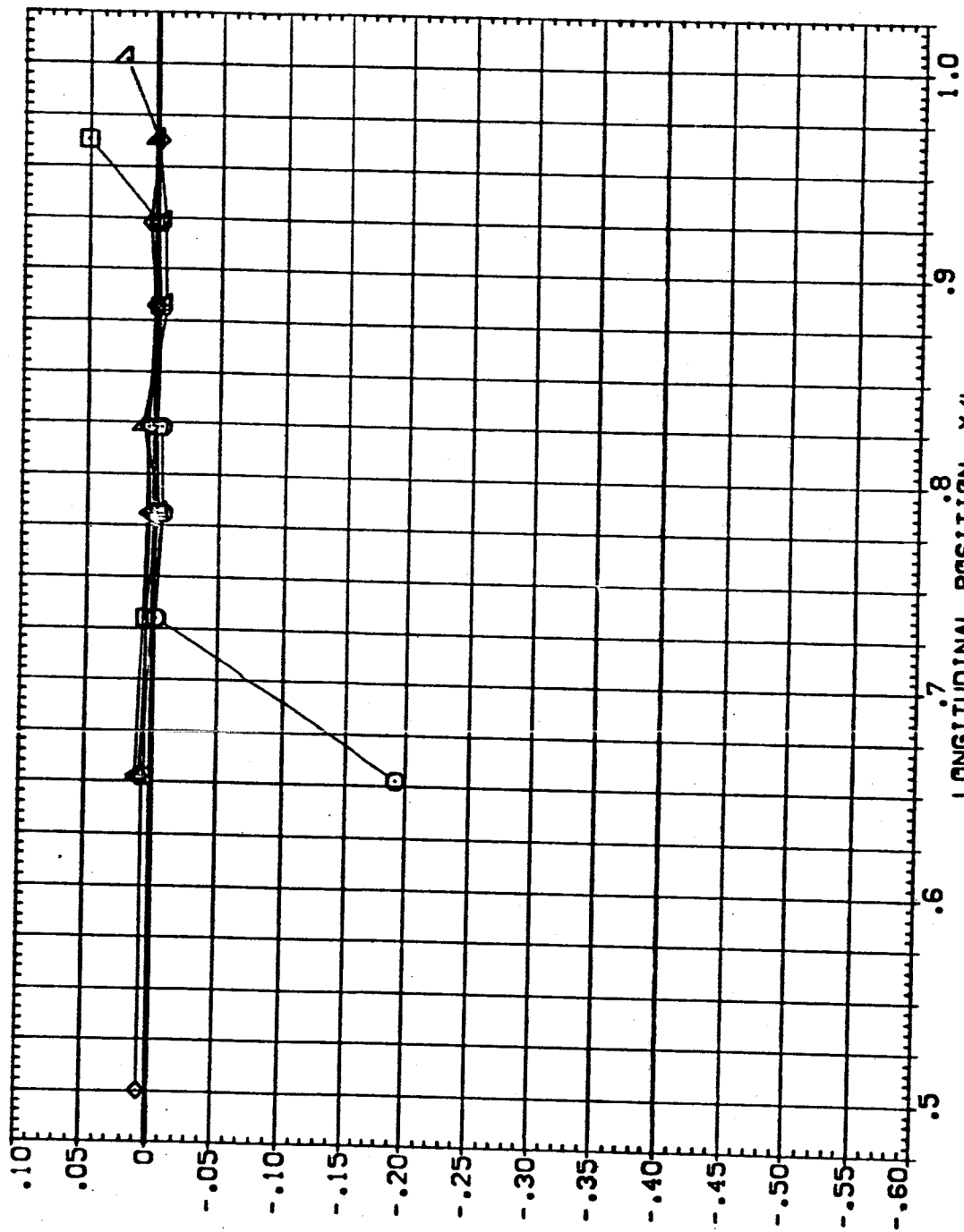


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	255.000	4.000	.000	RUDDER	.000	1.000	
□	270.000			GIMBAL	1.000	1.250	
◇	290.000						
△	320.000						
▽	360.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

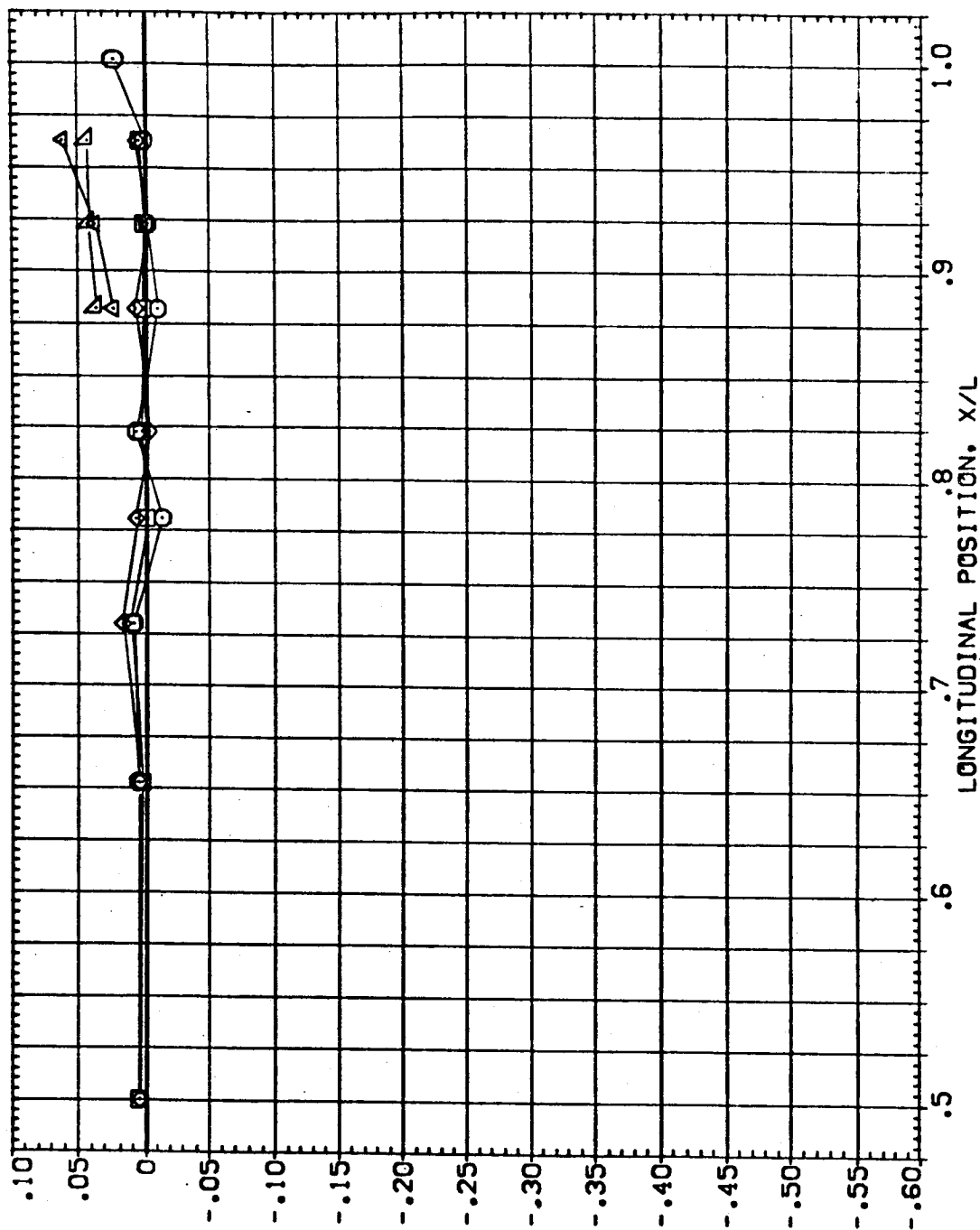


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB16)

PARAMETRIC VALUES	ELV-18	ELV-09	4.000
	RUDER	MACH	1.400
	GIMBAL		1.000

PHI	BETA	ALPHA
180.000	.000	-4.000
195.000		
210.000		
225.000		
240.000		

SYMBOL

○ □ ◇ △ ▽

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

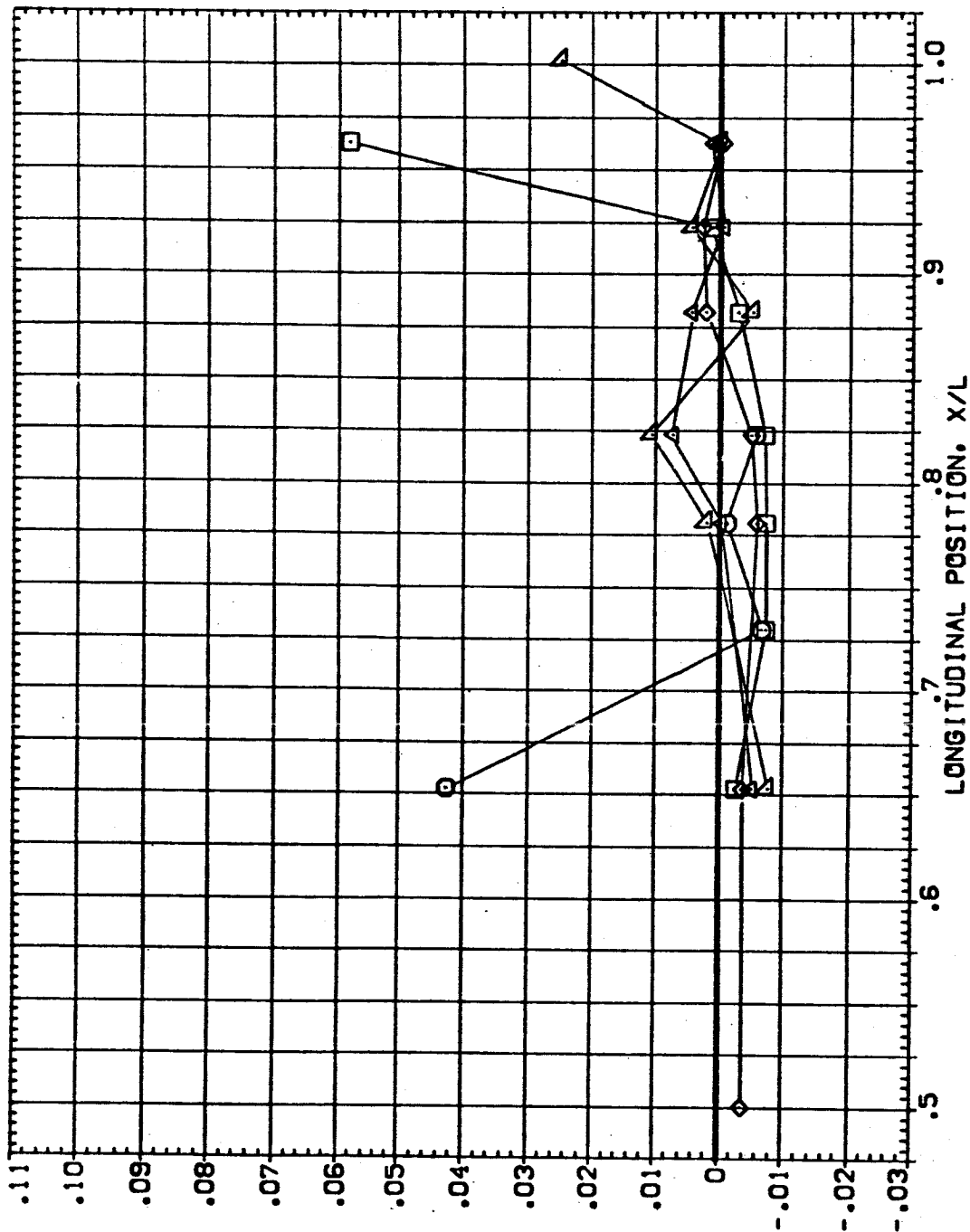


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY(EUB16)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL PH1 BETA ALPHA
 255.000
 270.000
 290.000
 320.000
 360.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

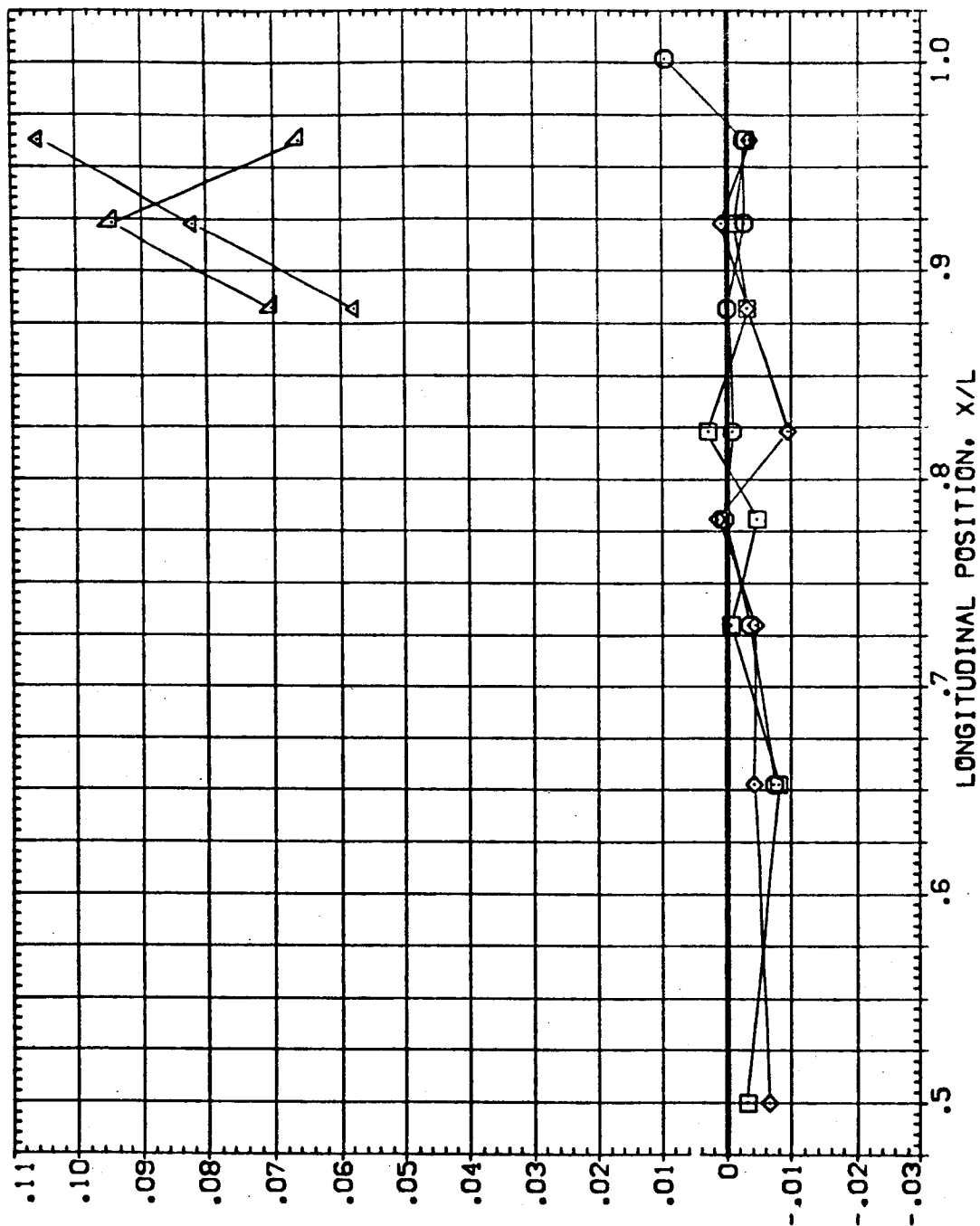


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SR3-NOM MPS-OFF ORB BODY (EEUB16)

PHI	BETA	ALPHA	ELV-18	ELV-08	PARAMETRIC VALUES
180.000	.000	.000	RUDER	.000	MACH
195.000			GIMBAL	1.000	4.000
210.000					1.400
225.000					
240.000					

SYMBOL
 ▽
 ◇
 □
 ○
 △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

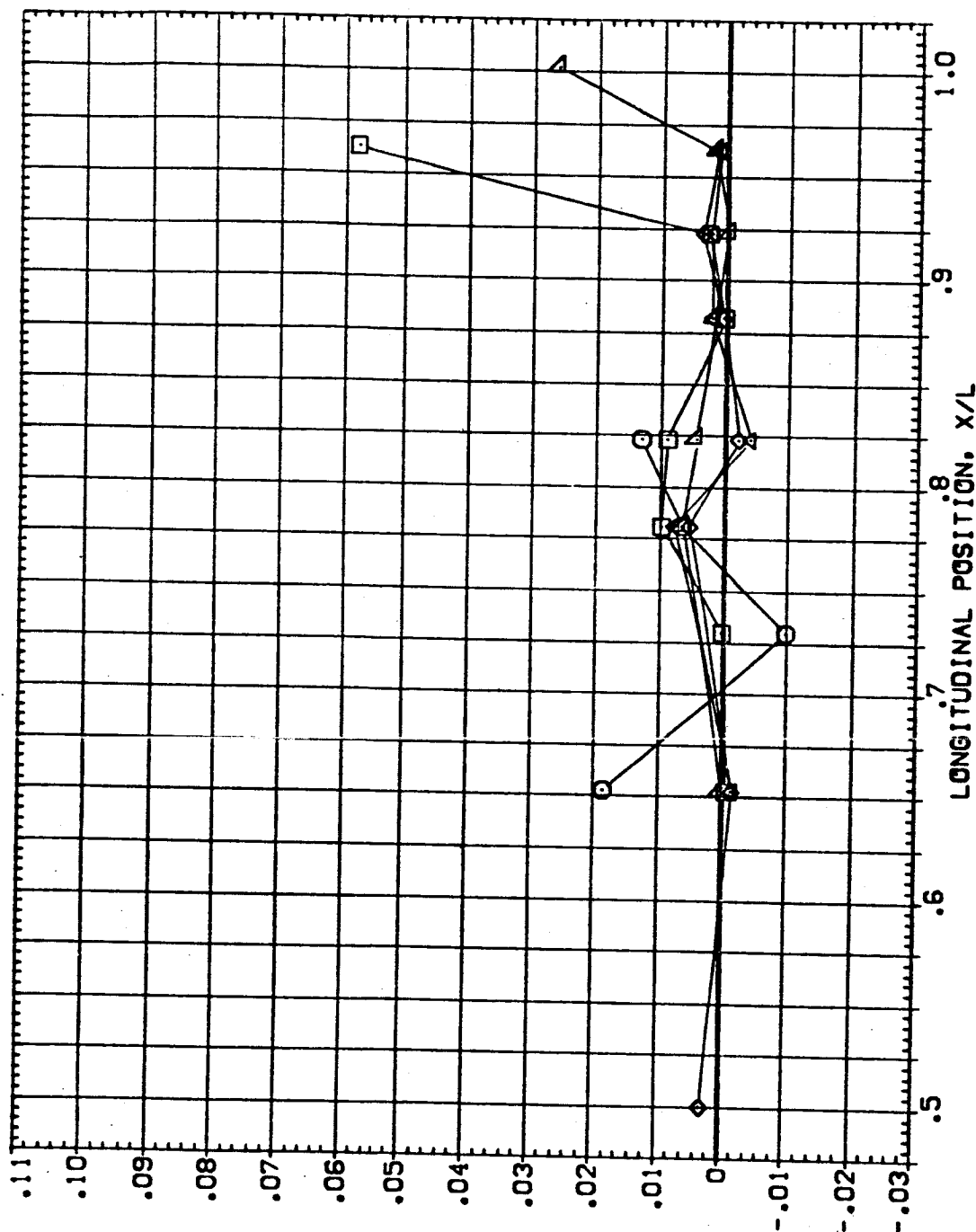


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

PHI 255.000 ALPHA .000
 270.000
 290.000
 320.000
 360.000

BETA .000
 .000
 .000
 .000
 .000

SMOO
 □
 ◇
 △
 △
 △

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

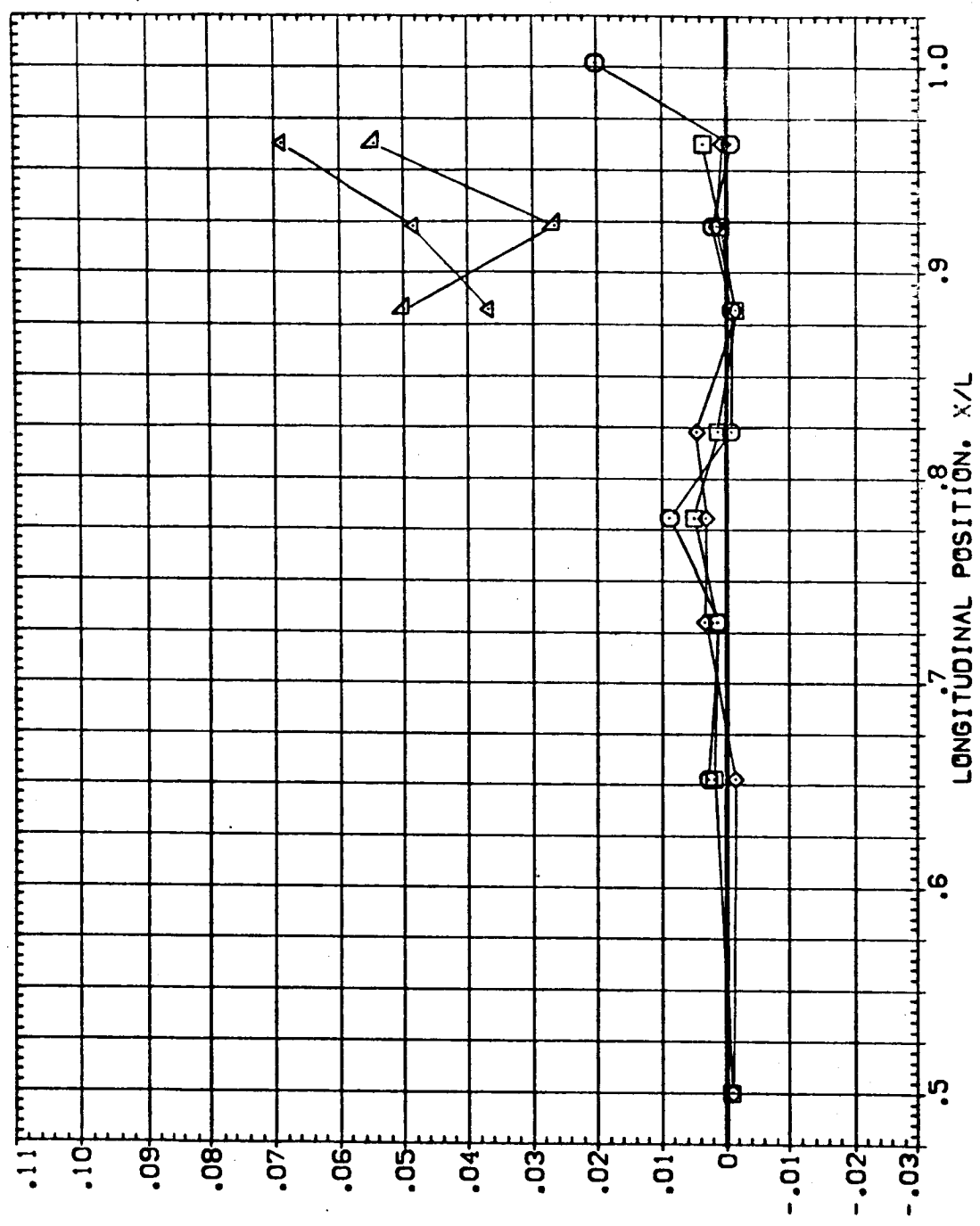


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB16)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
□	180.000	.000	4.000		8.000	1.000	4.000
◇	195.000			RUDDER	.000		1.400
△	210.000			GIMBAL	1.000		
▽	225.000						
▽	240.000						

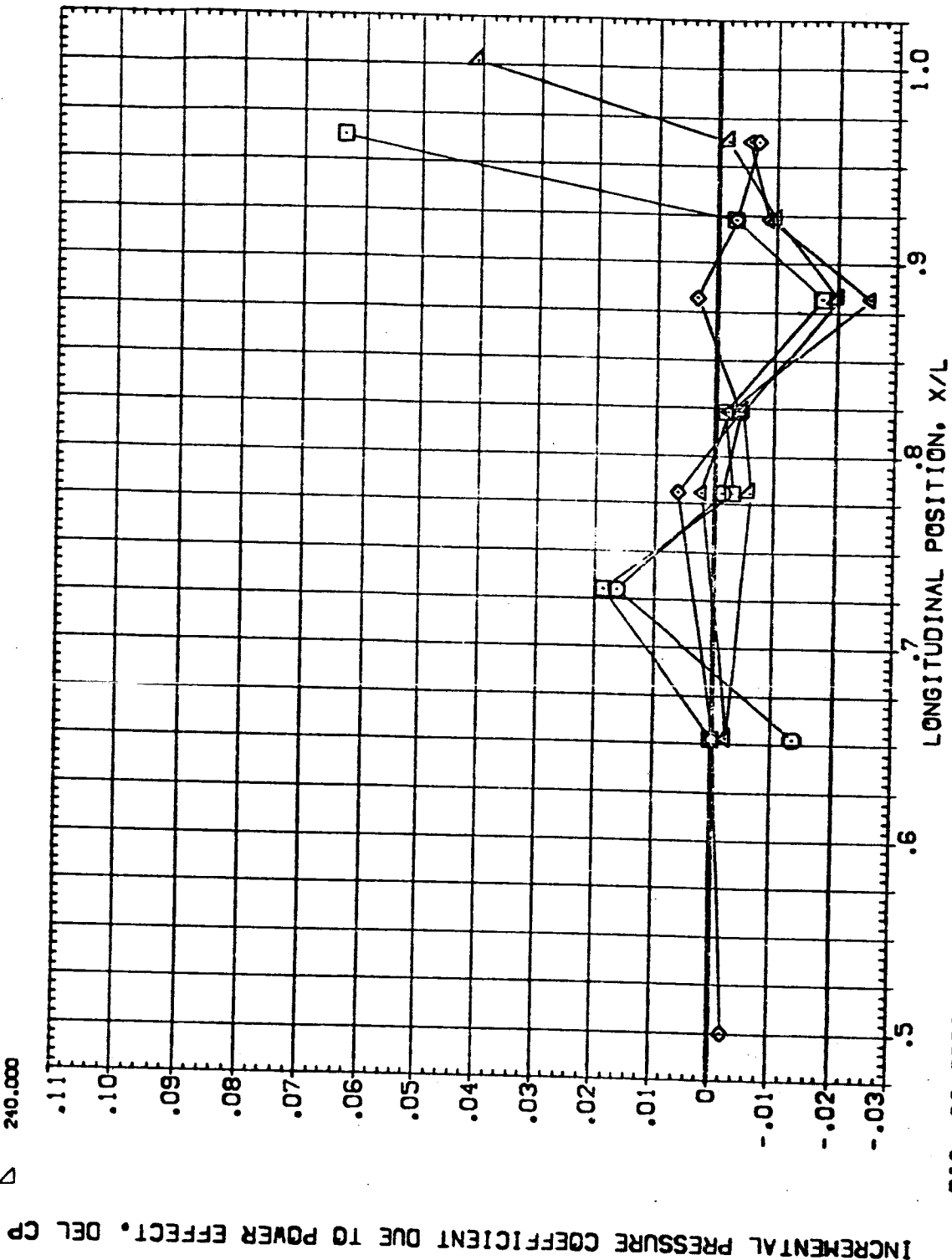


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (EEUB16)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

PHI BETA ALPHA
 255.000 .000 4.000
 270.000
 290.000
 320.000
 360.000

SYMBOL
 ▽ ◊ ◻ ◴

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

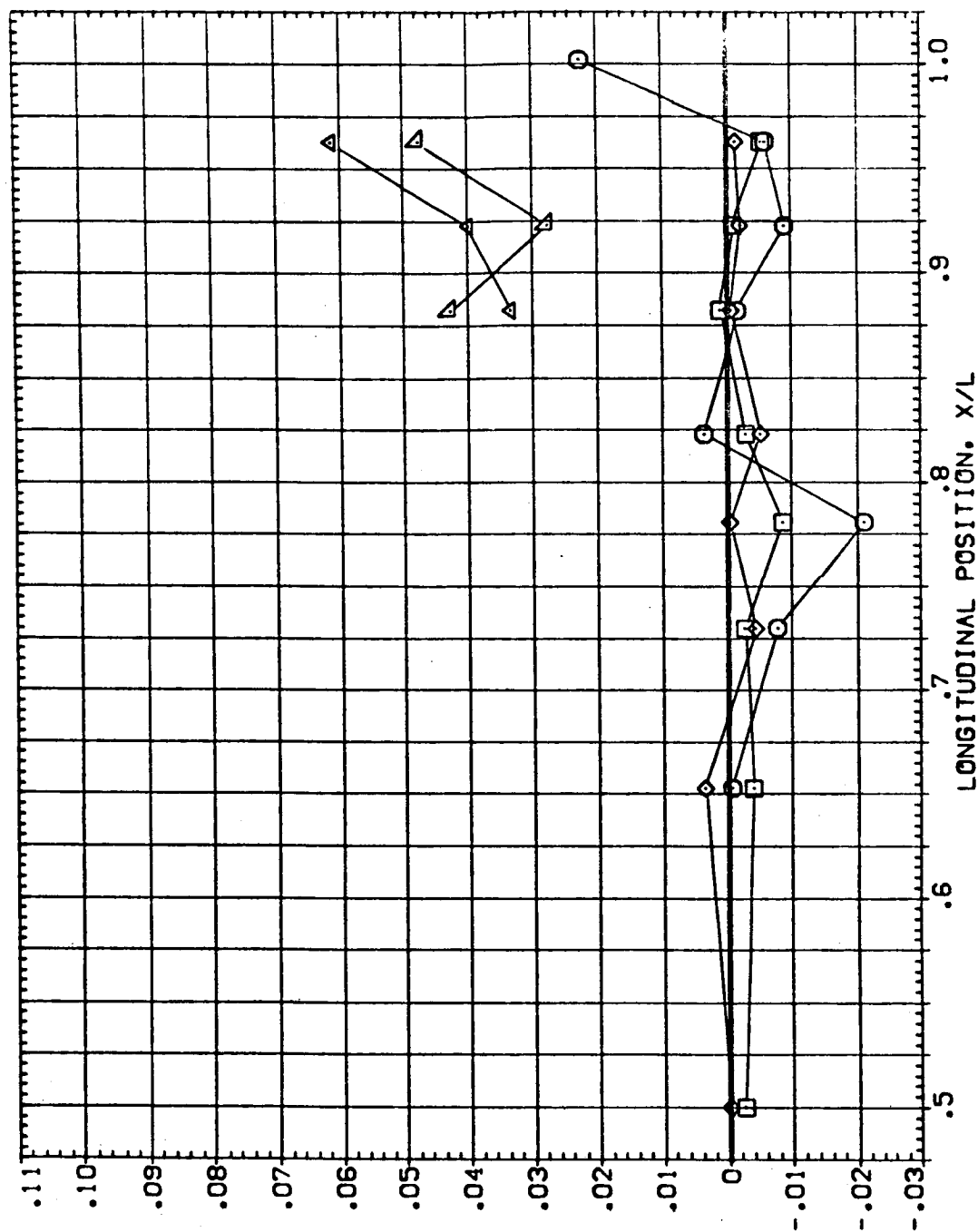


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (FEUB16)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
○	180.000	-1.000	.000	8.000	.000	1.000	4.000
□	195.000			RUDDER			1.400
◇	210.000			GIMBAL			
△	225.000						
▽	240.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

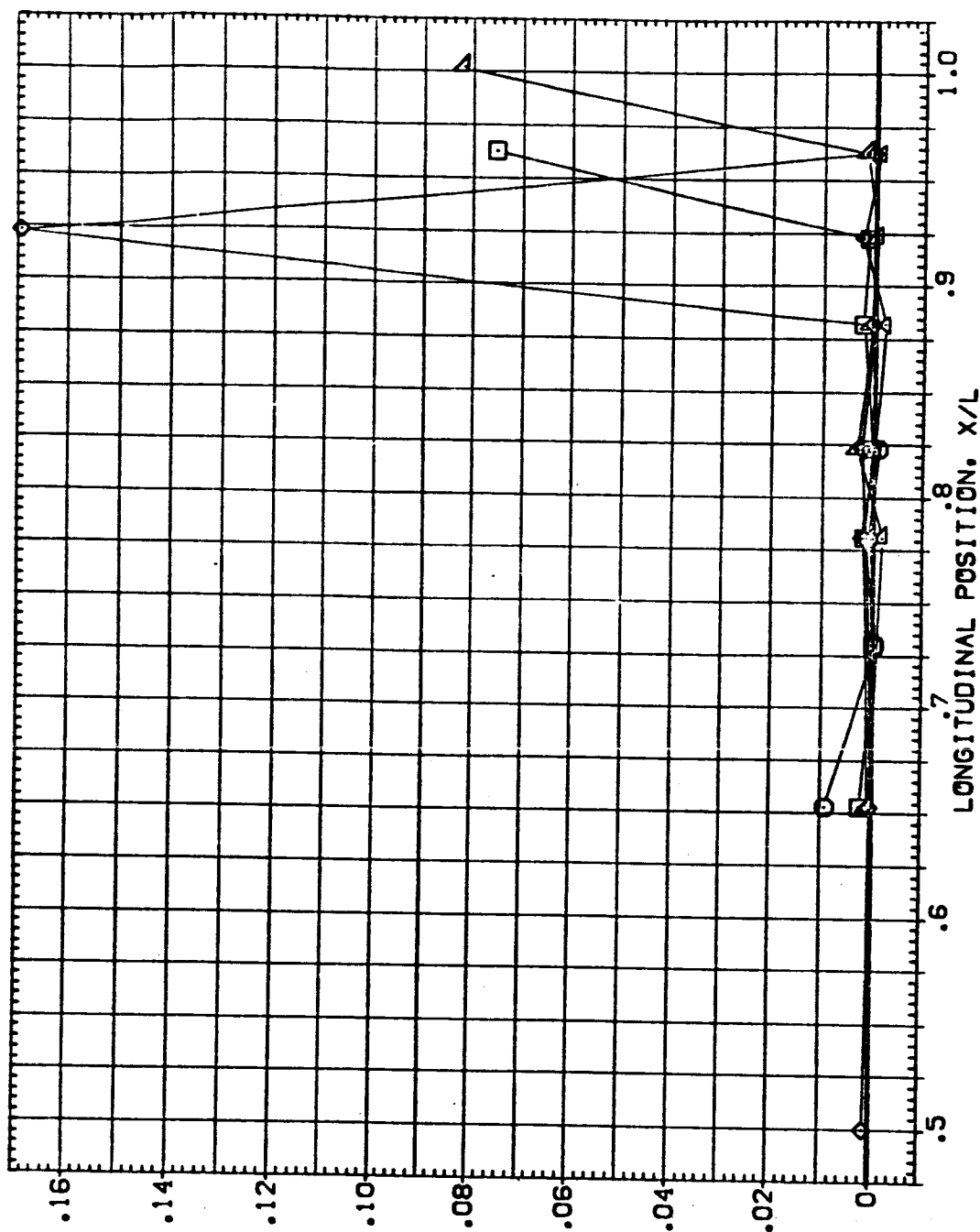


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

SYMBOL	PHI	BETA	ALPHA	ELV-18	ELV-08
○	255.000	-4.000	.000	8.000	4.000
□	270.000			.000	1.400
◇	290.000			1.000	
△	320.000				
▽	360.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

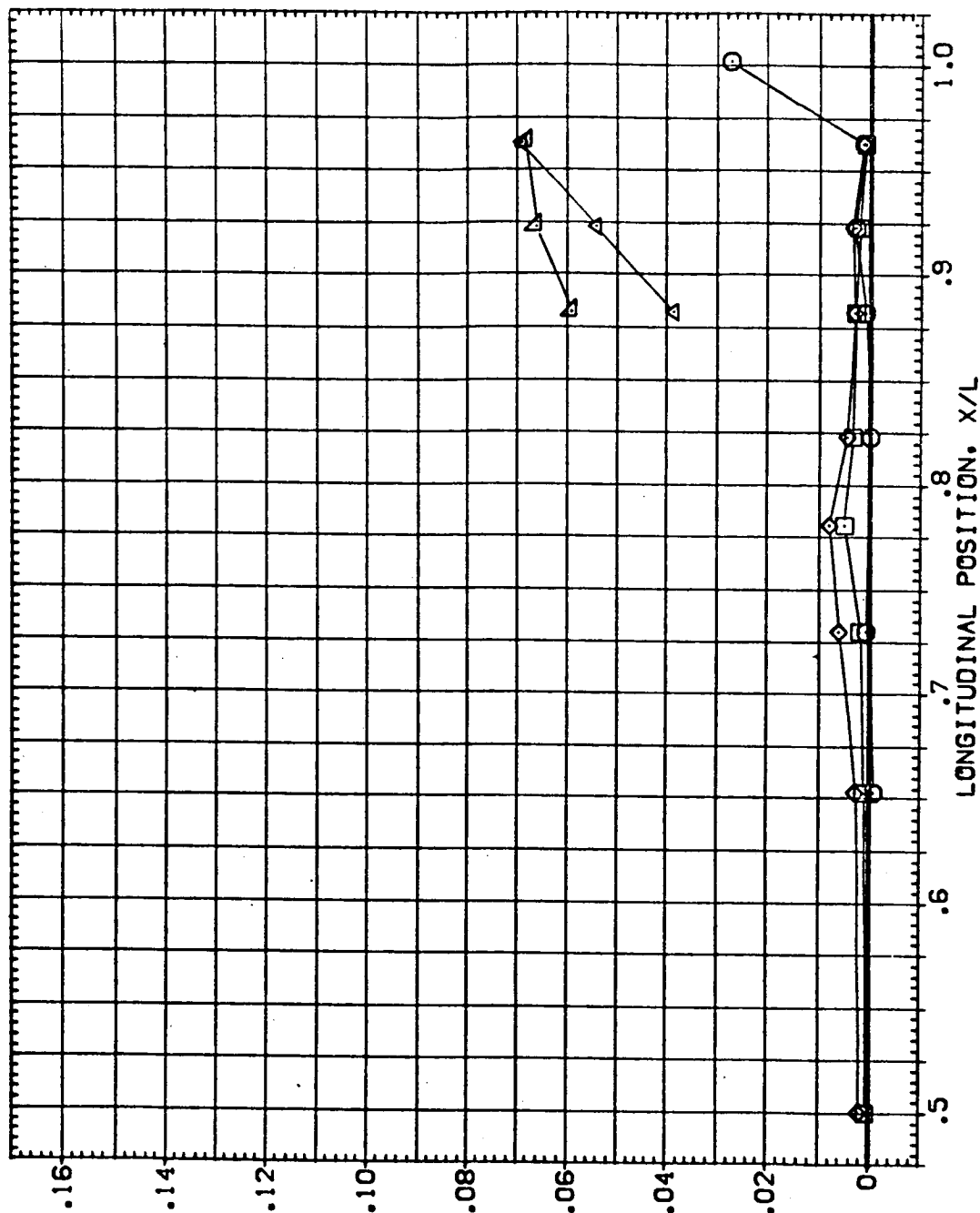


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF ORB BODY (FEUB16)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	180.000	4.000	.000	RUDER			4.000
□	195.000			GIMBAL		1.000	1.400
◇	210.000						
△	225.000						
▽	240.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

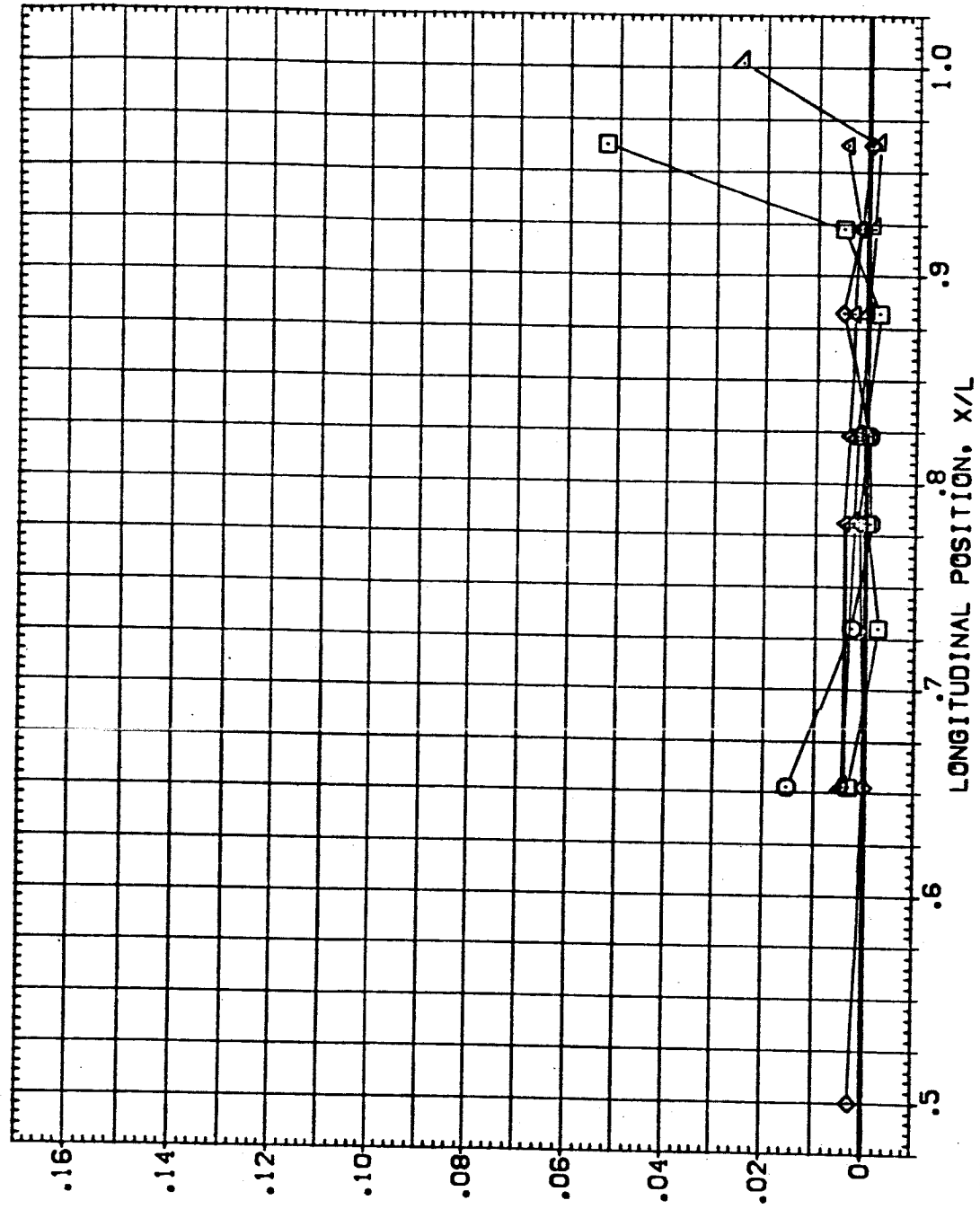


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

SYMBOL	PHI	BETA	ALPHA	ELV-18	ELV-08
○	255.000	4.000	.000	RUDDER	MACH
□	270.000			GIMBAL	
◇	290.000				
△	320.000				
▽	360.000				

PARAMETRIC VALUES
 8.000 4.000
 .000 1.400
 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

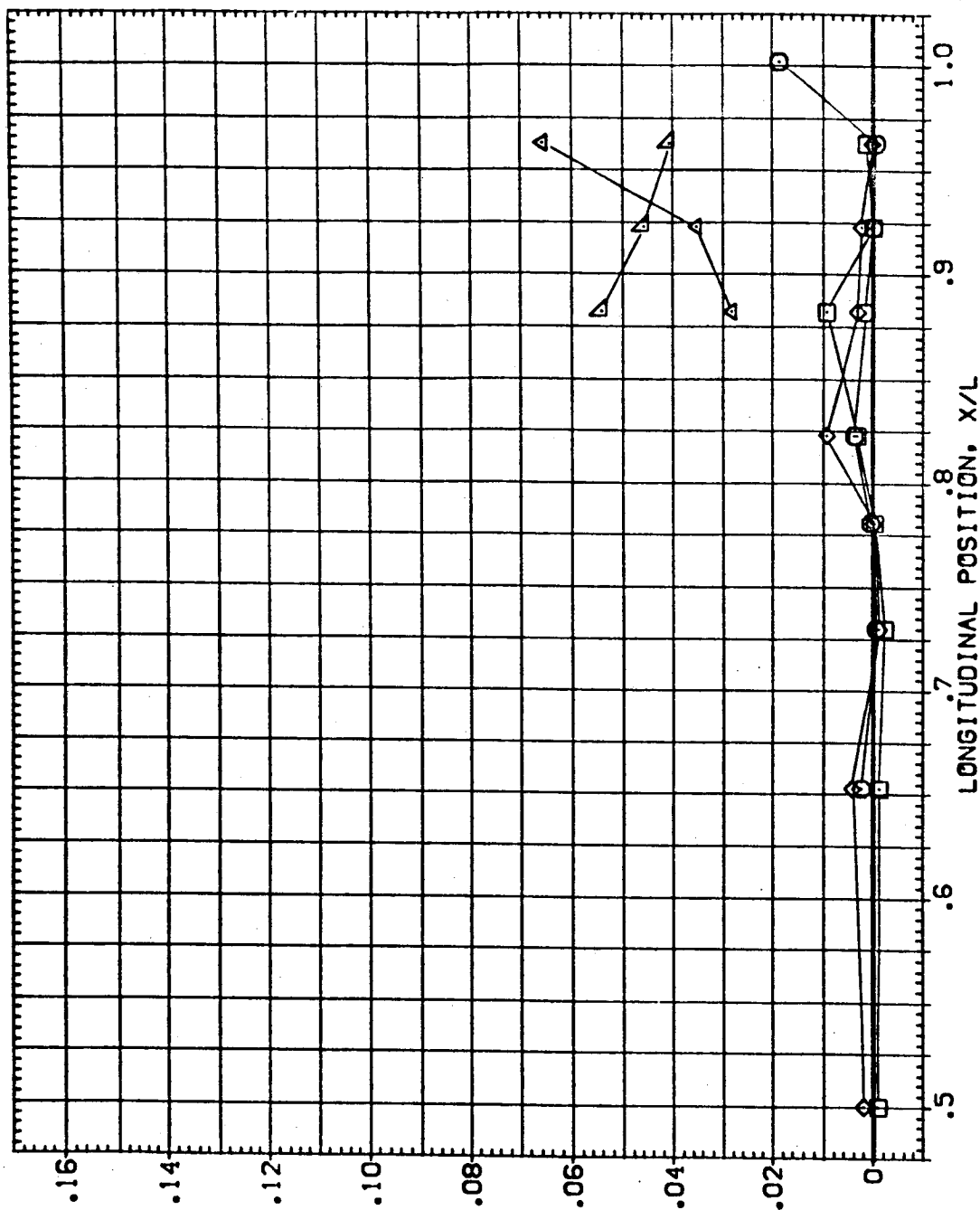


FIG. 92 ORBITER FUSELAGE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(BEURE1)

SYMBOL 21/8 BETA ALPHA
 ○ .299 .000 -4.000
 □ .364 .000 -4.000
 ◇ .427 .000 -4.000
 ▽ .534 .000 -4.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

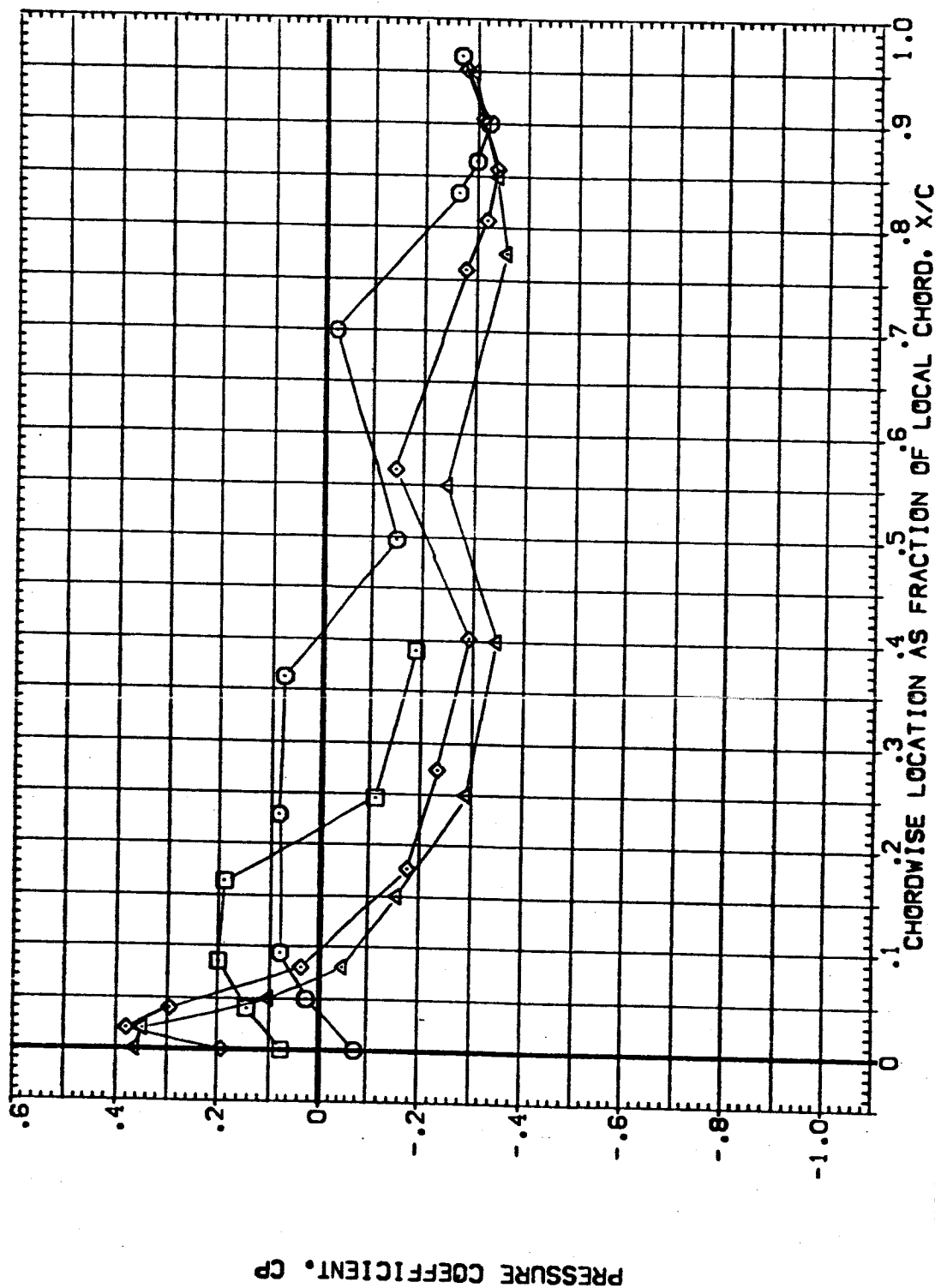


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	Z/Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-IB	8.000	ELV-OB	4.000
				RUDER	.000	MACH	.900
				GIMBAL	1.000		

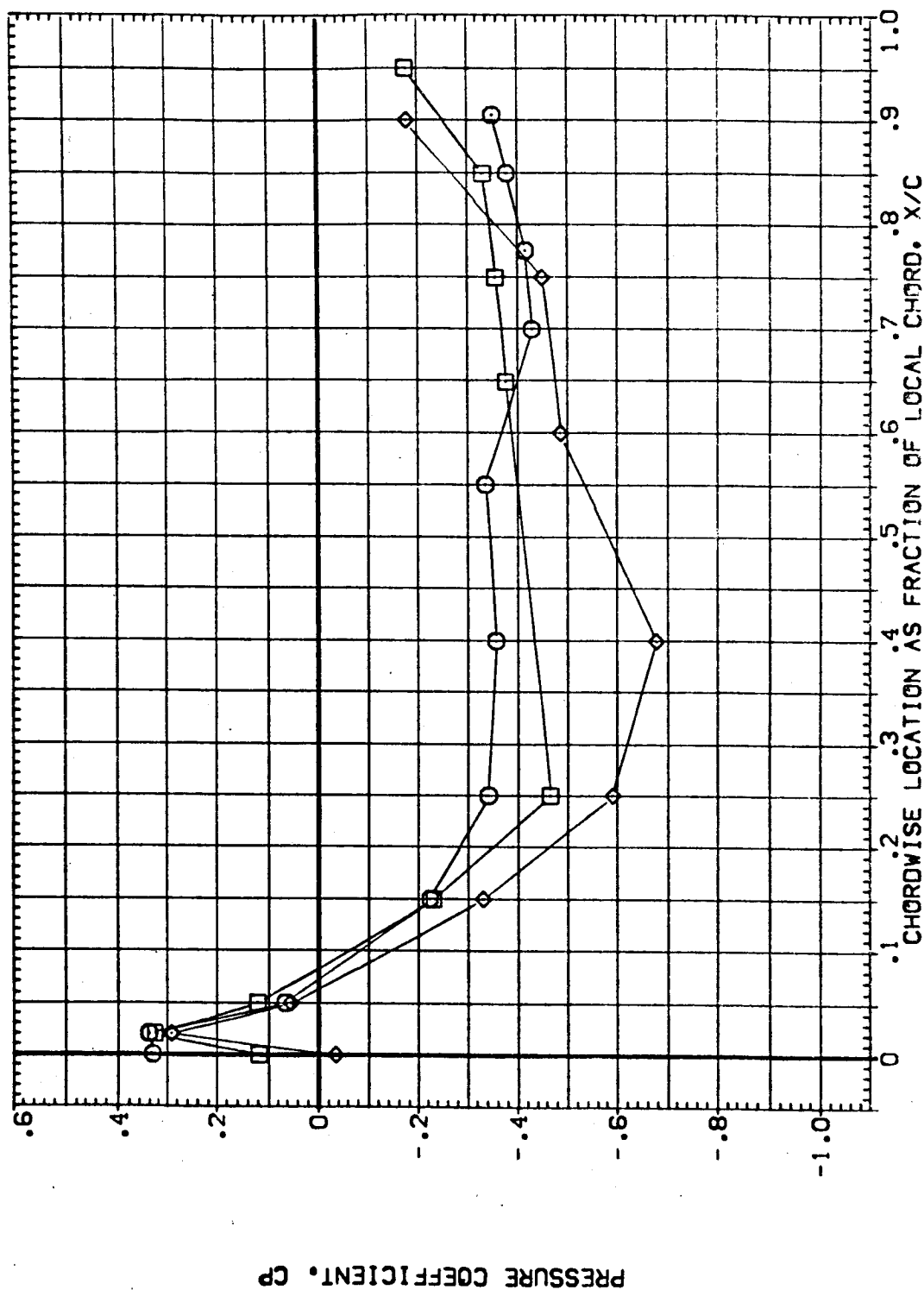


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(BEUR01)

SYMBOL	2V/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-09	1.000
○	.289	.000	.000	RUDER	.000	MACH	.900
□	.364			GIMBAL	1.000		
◇	.427						
△	.534						

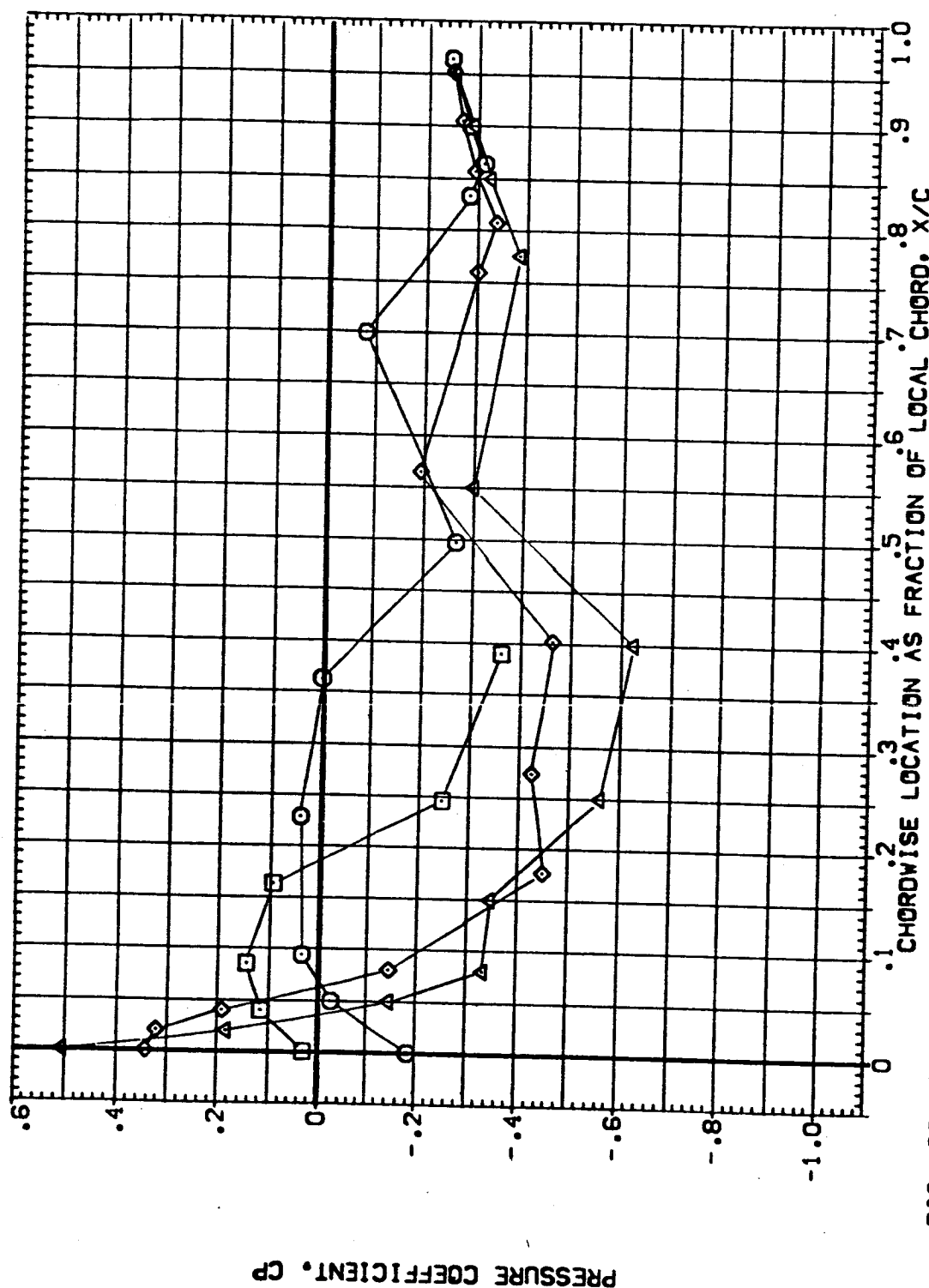


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES
○	.641	.000	.000	ELV-18 8.000 ELV-09 4.000
□	.780	.000	.000	RUDER .000 MACH .900
◇	.687	.000	.000	GIMBAL 1.000

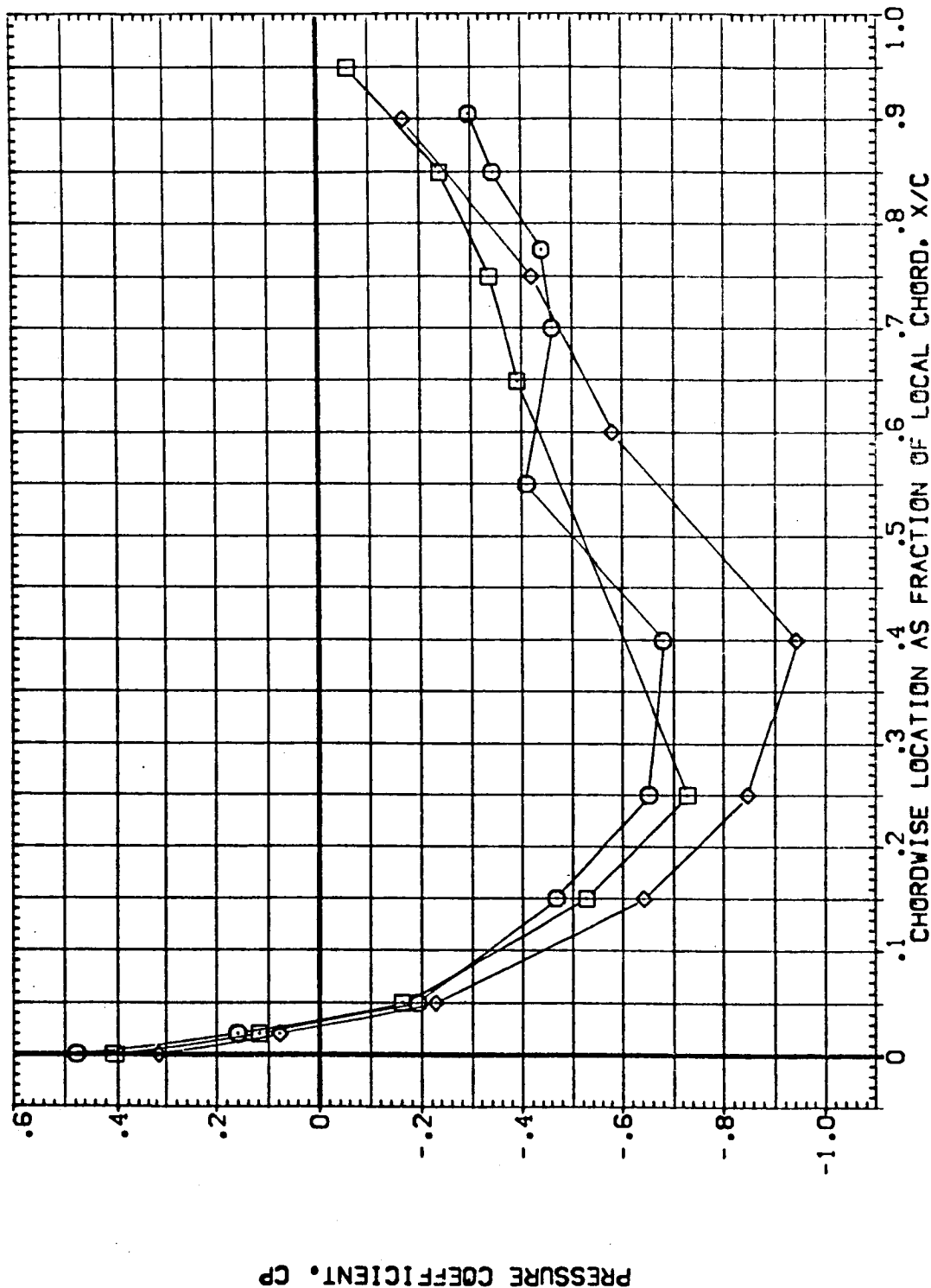


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(BEURL1)

SYMBOL	2N/B	BETA	ALPHA	ELV-18	ELV-08	PARAMETRIC VALUES
○	.239	.000	4.000	RUDDER	.000	MACH
□	.364			GIMBAL	1.000	
◇	.427					
△	.534					

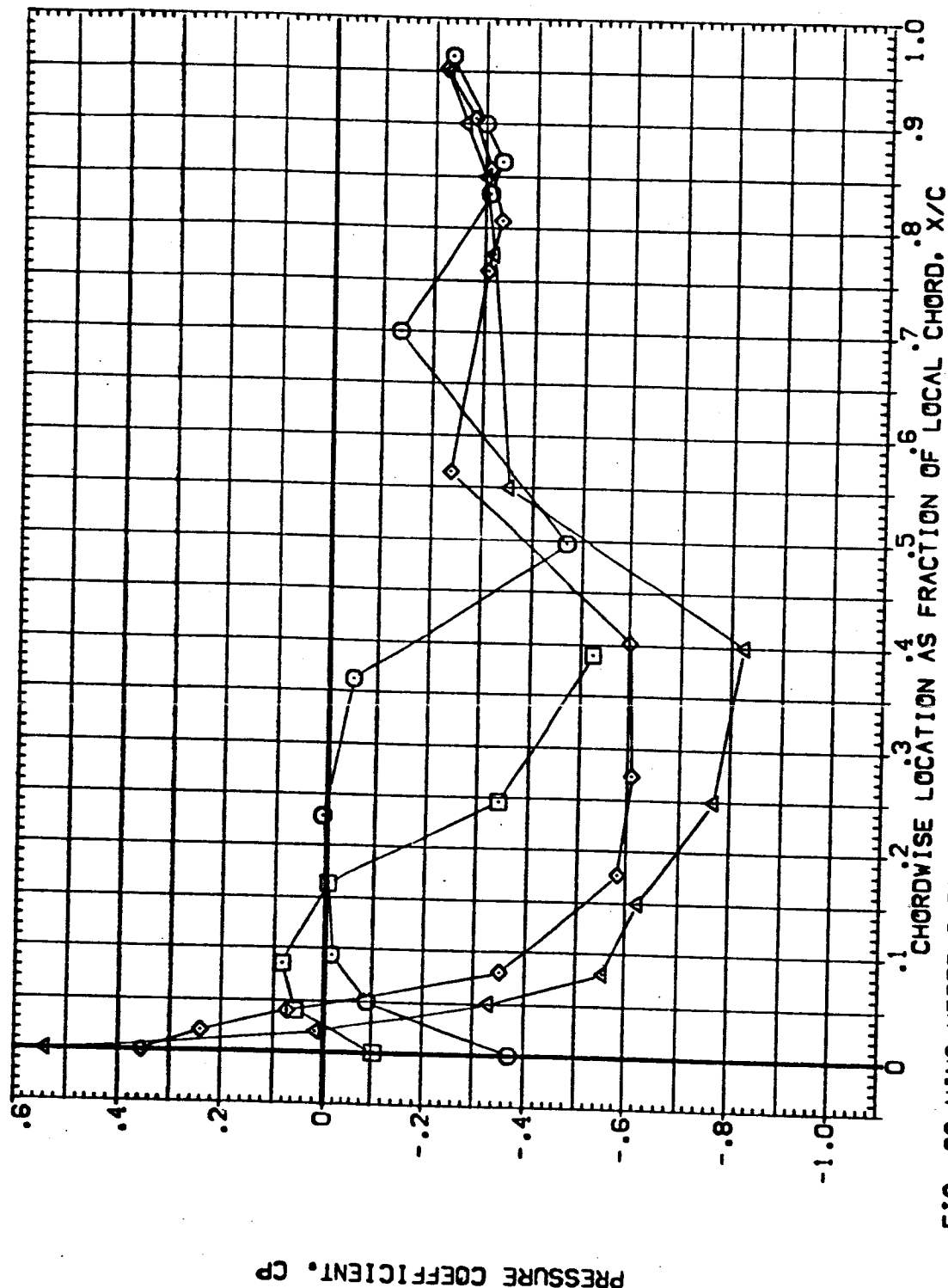


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(BEUR01)

SYMBOL	2V/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-19	ELV-08	ELV-08	ELV-08
○	.641	.000	4.000	RUDER	.000	MACH	1.000
□	.780			GIMBAL	1.000		
◇	.887						

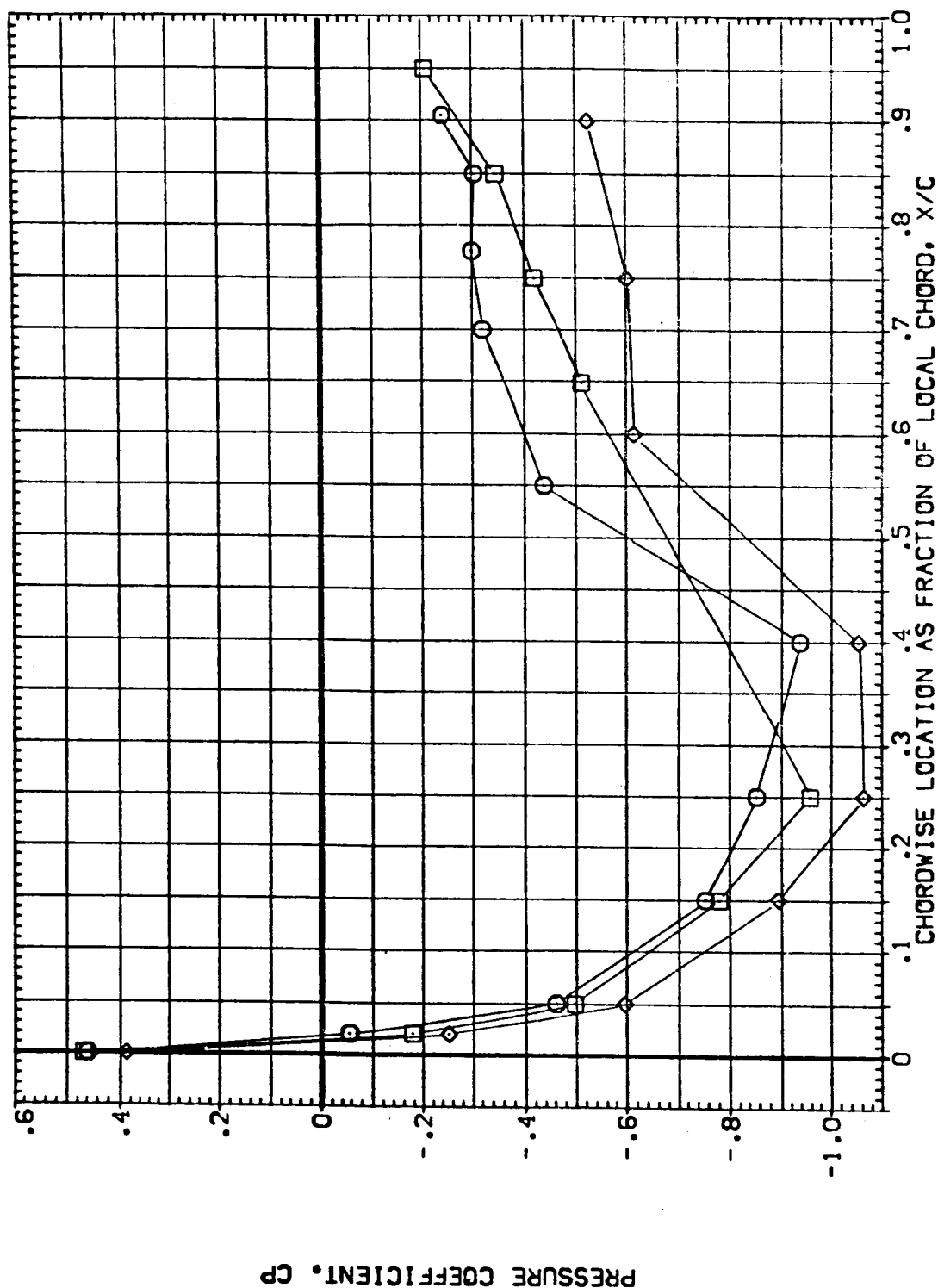


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(CEURO1)

SYMBOL	Z1/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.299	-1.000	.000	RUDER	.000	MACH	.900
□	.364			GIMBAL	1.000		
◇	.427						
△	.534						

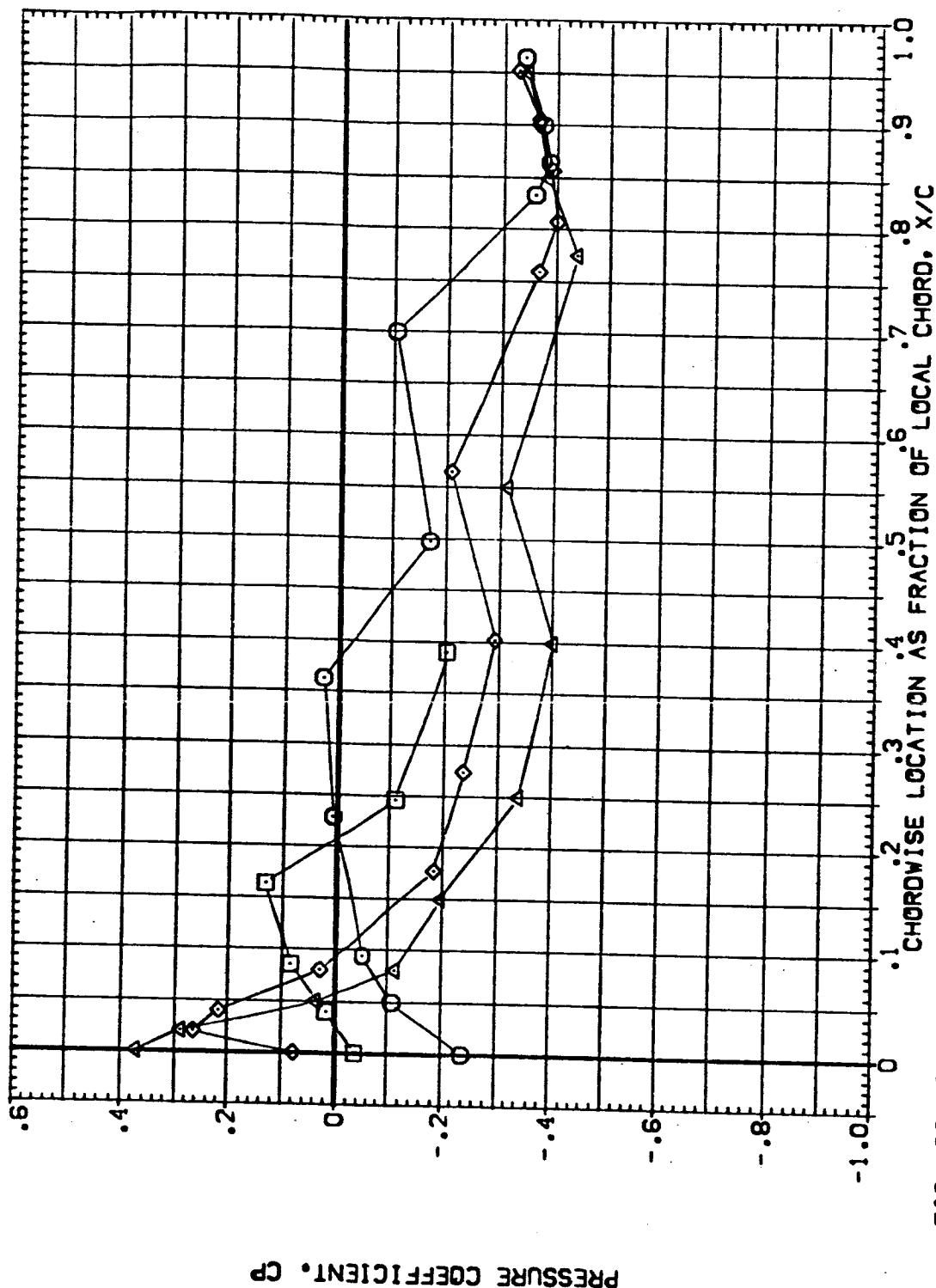


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL 21/8 BETA ALPHA
 ○ .641
 □ .780
 ◇ .887

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

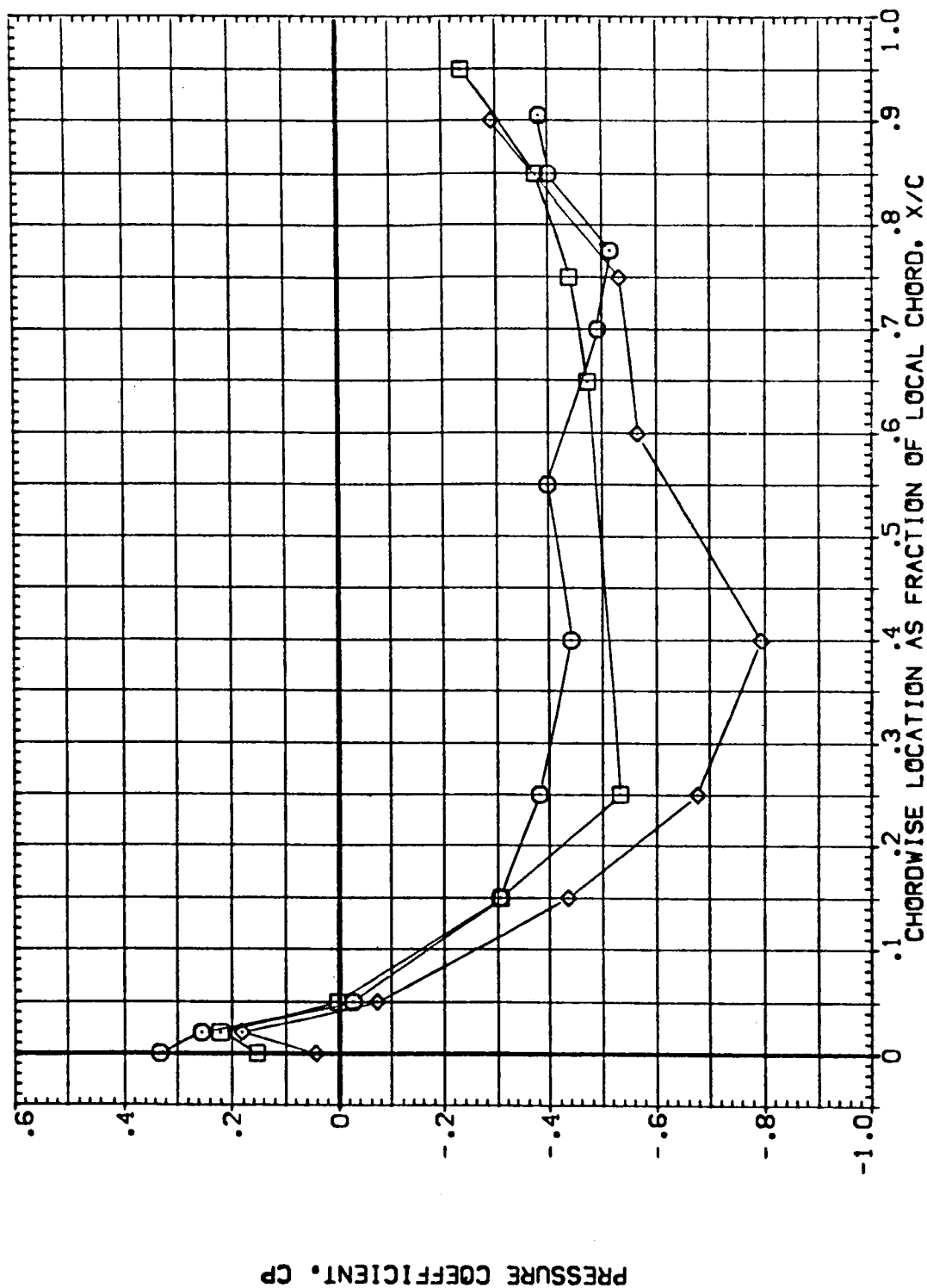


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(CEURO1)

SYMBOL	21/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.299	4.000	.000	RUDER	.000	MACH	.900
□	.364			GIMBAL	1.000		
◇	.427						
△	.534						

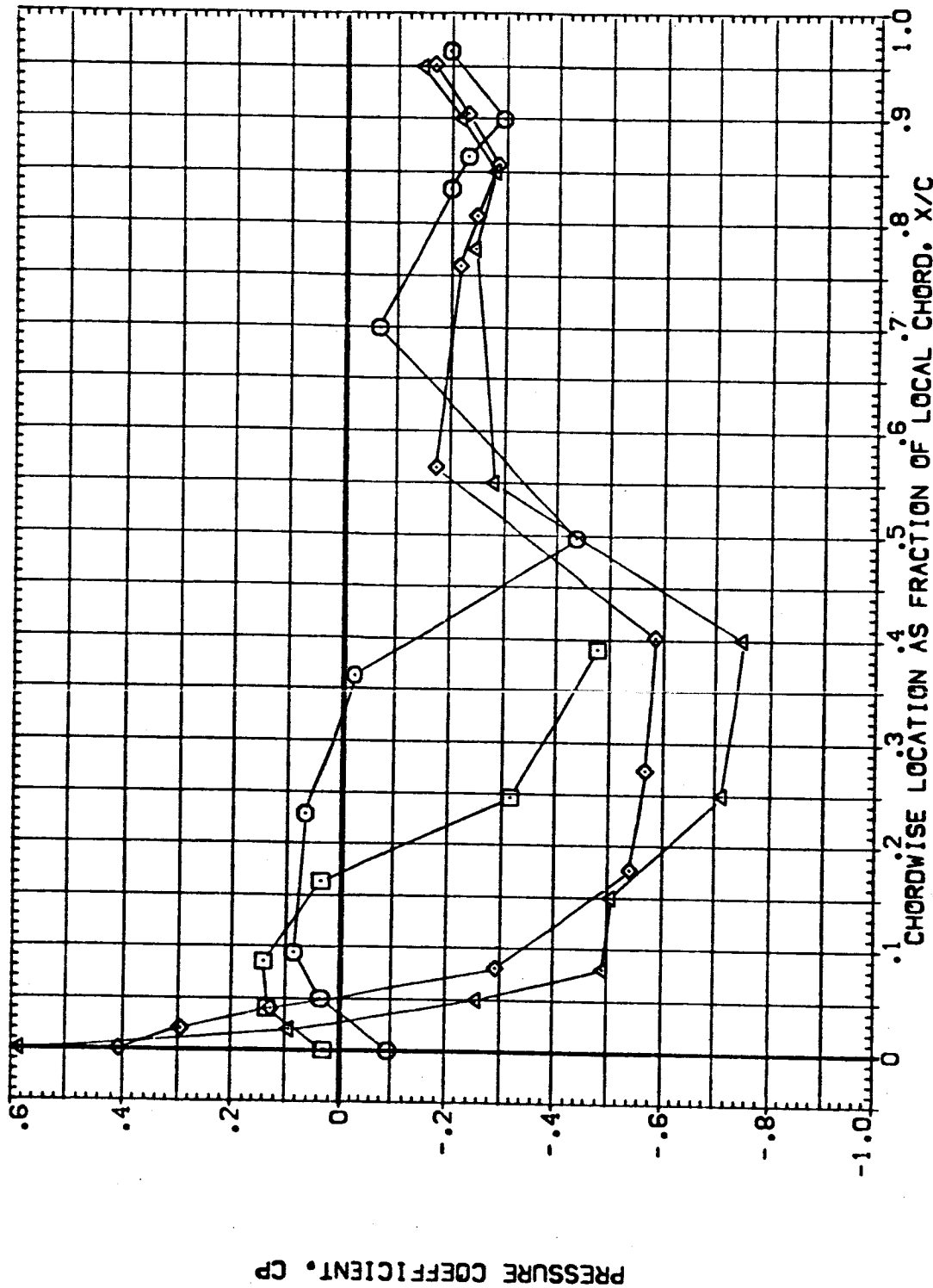


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(CEURO1)

SYMBOL 2Y/B BETA ALPHA

○ .641 1.000 .000

□ .780 1.000 .000

◇ .887 1.000 .000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDDER .000 MACH .900

GIMBAL 1.000

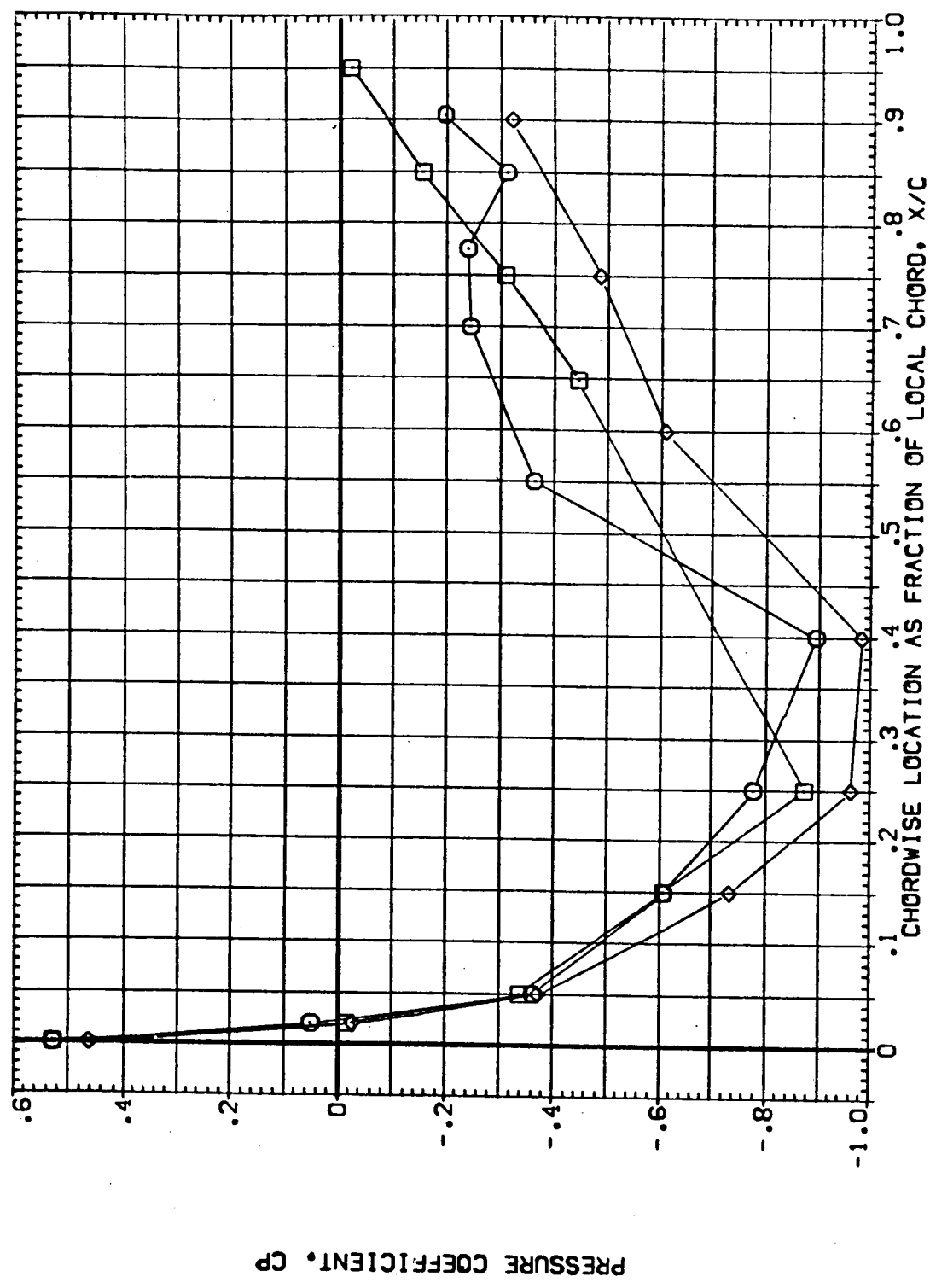


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SR3-OFF MPS-OFF TOP WING(BEURO2)

SYMBOL	2N/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	ELV-08
○	.299	.000	-1.000	RUDER	.000	1.000	1.000
□	.364			GIMBAL			
◇	.427						
△	.534						

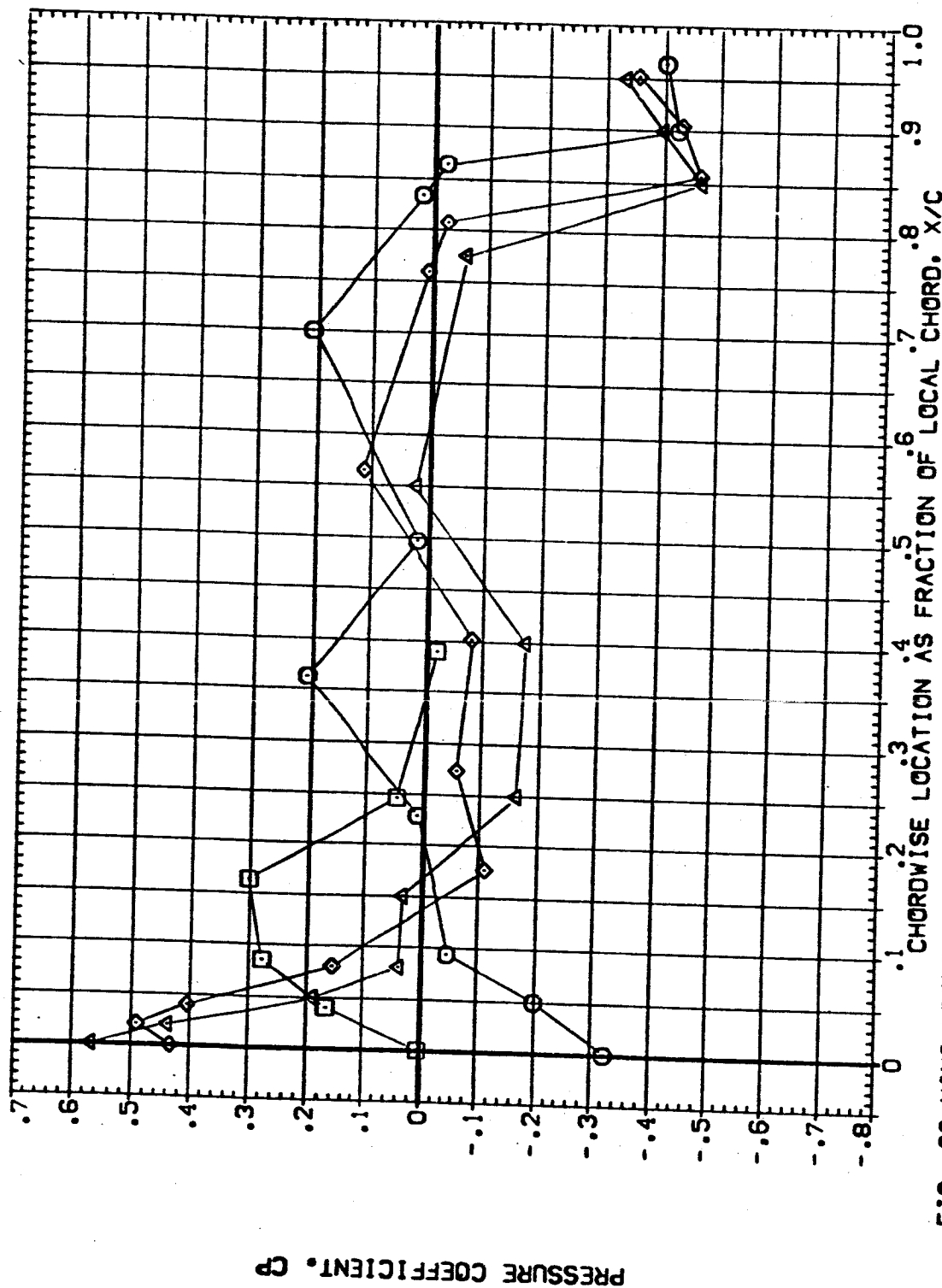


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

PARAMETRIC VALUES
 ELV-18 8.000 ELV-58 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL 21/8 BETA ALPHA
 ○ .841
 □ .780
 ◇ .687

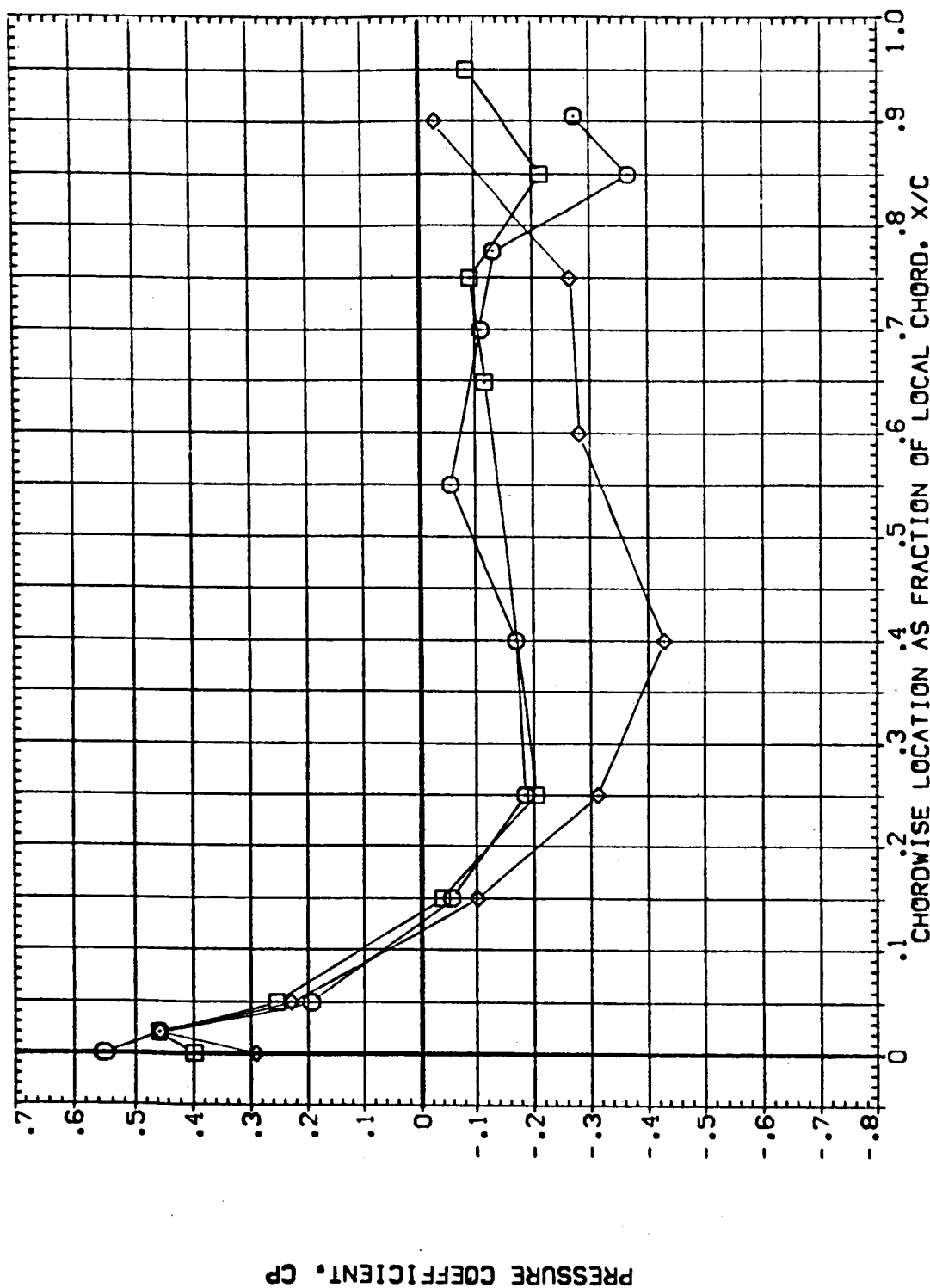


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(BEUR02)

SYMBOL	2N/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.299	.000	.000	8.000	.000	1.000	4.000
□	.364	.000	.000	8.000	.000	1.000	1.100
◇	.427	.000	.000	8.000	.000	1.000	1.100
△	.534	.000	.000	8.000	.000	1.000	1.100

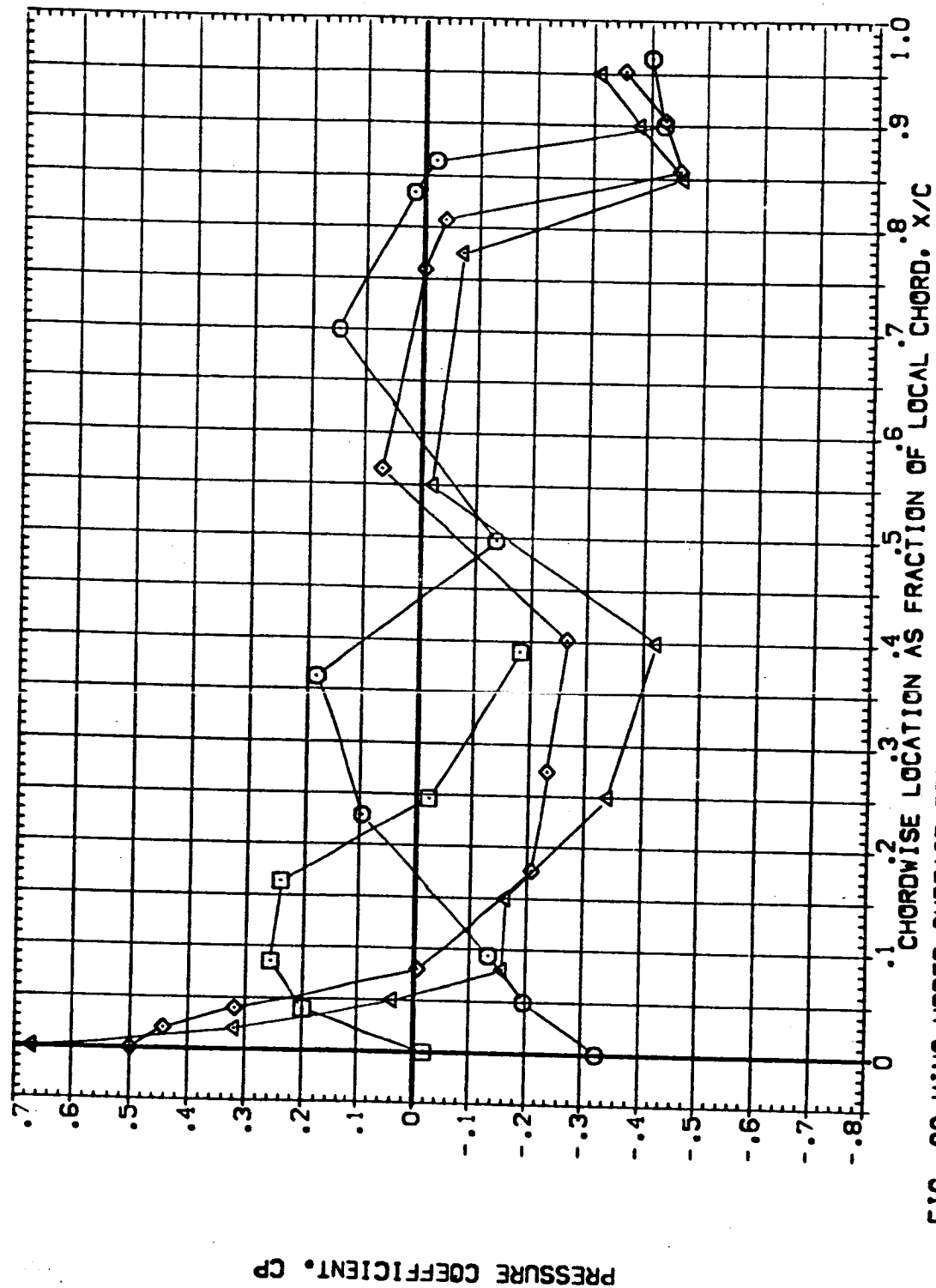


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL 2V/8 BETA ALPHA
 .641 .000 .000
 .780
 .887

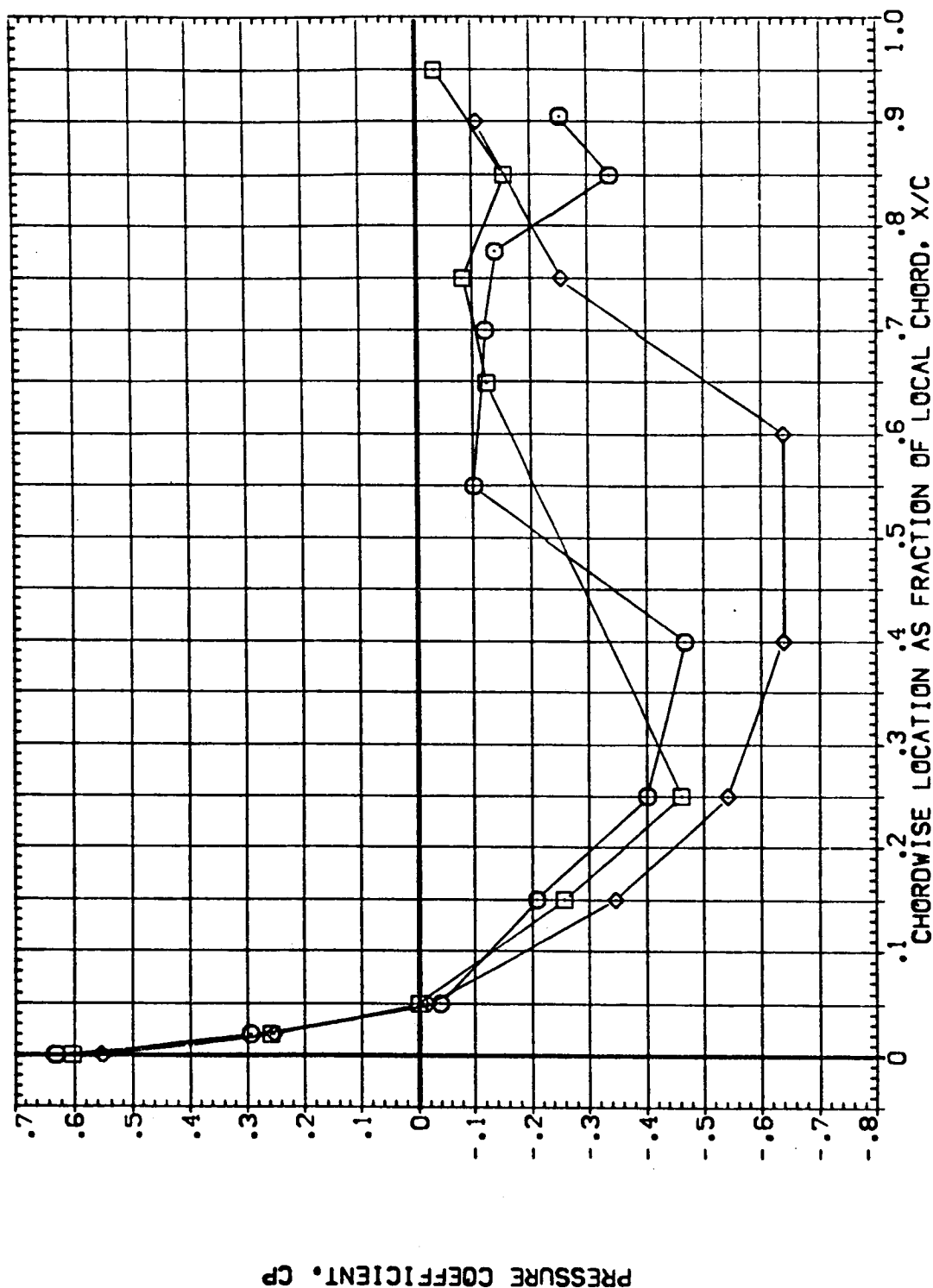


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(BEUR02)

SYMBOL	Z _T /B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.299	.000	1.000	RUDER	.000	MACH	1.100
□	.364			GIMBAL	1.000		
◇	.427						
△	.534						

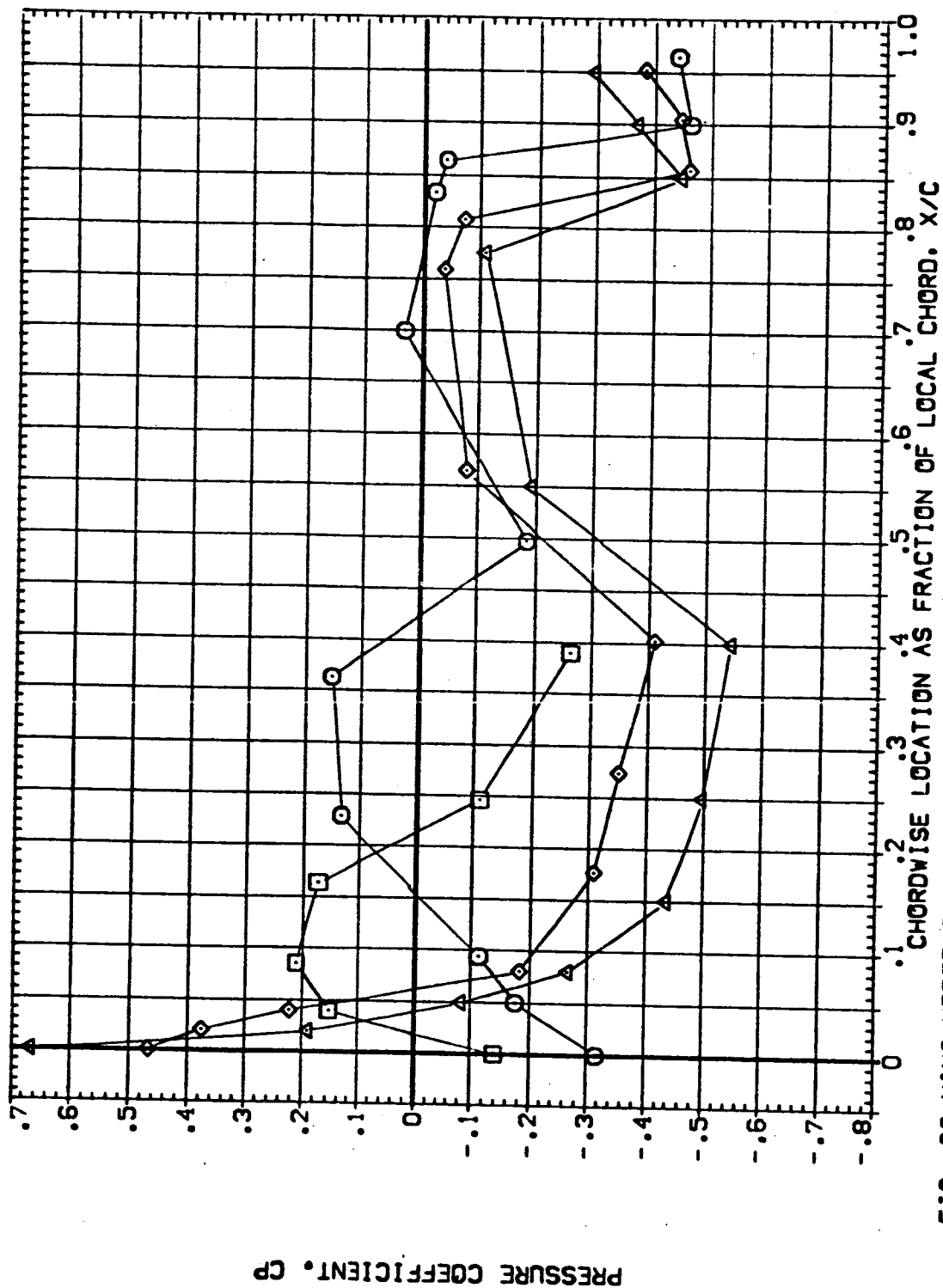


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	2 α /8	BETA	ALPHA	PARAMETRIC VALUES
○	.641	.000	4.000	ELV-18 8.000 ELV-08 4.000
□	.780			RUDER .000 MACH 1.100
◇	.887			GIMBAL 1.000

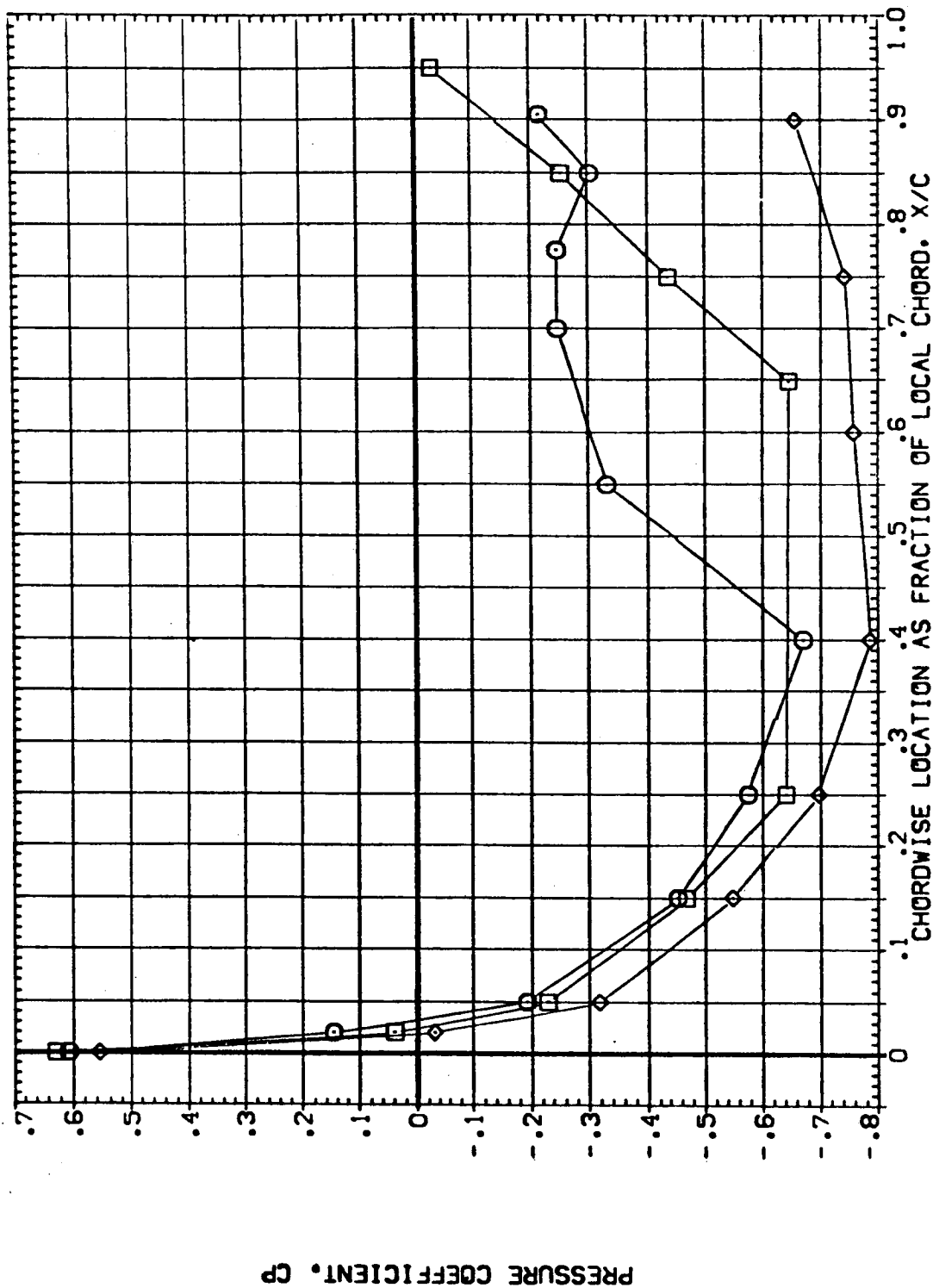


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(CEURO2)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
□	.299	-1.000	.000	8.000	8.000	1.000	4.000
◇	.364			RUDDER	.000		1.100
△	.427			GIMBAL	1.000		
▽	.534						

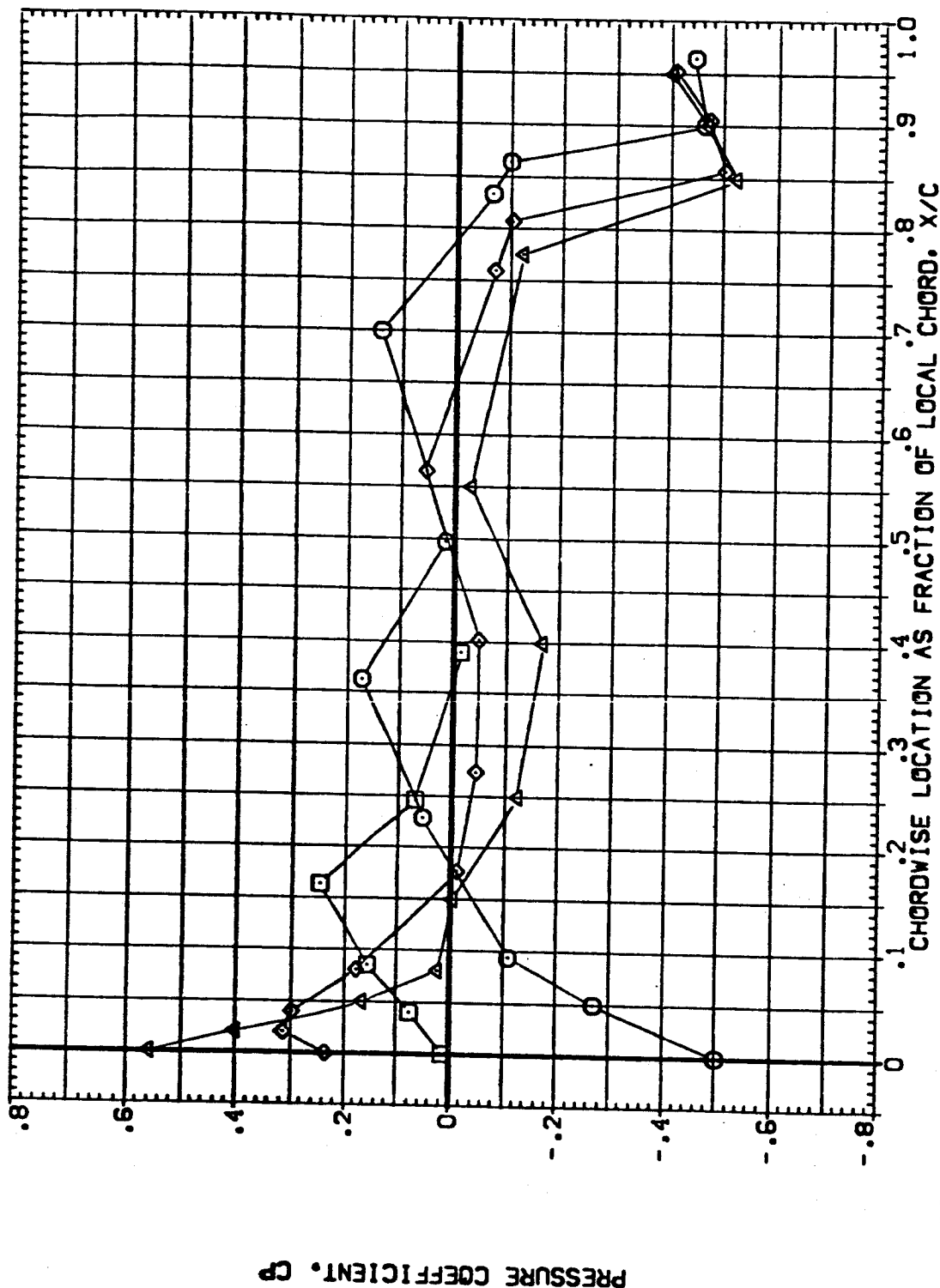


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL 2V/B BETA ALPHA

PARAMETRIC VALUES
ELV-18 8.000 ELV-08 4.000
RUDDER .000 MACH 1.100
GIMBAL 1.000

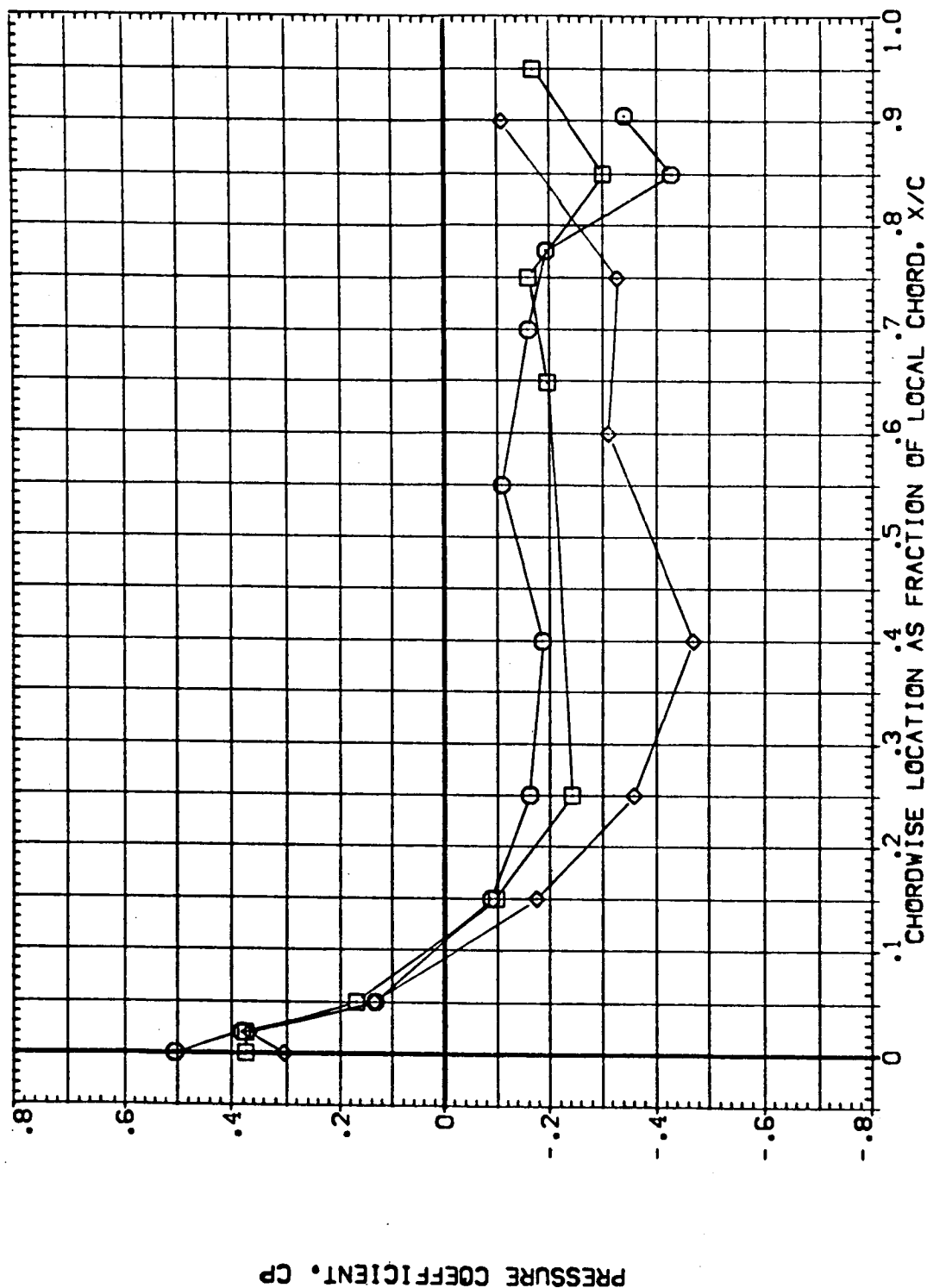


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(CEUR02)

SYMBOL	21/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
□	.298	4.000	.000		8.000	1.000	4.000
◇	.364			RUDER	.000		1.100
△	.427			GIMBAL	1.000		
▽	.534						

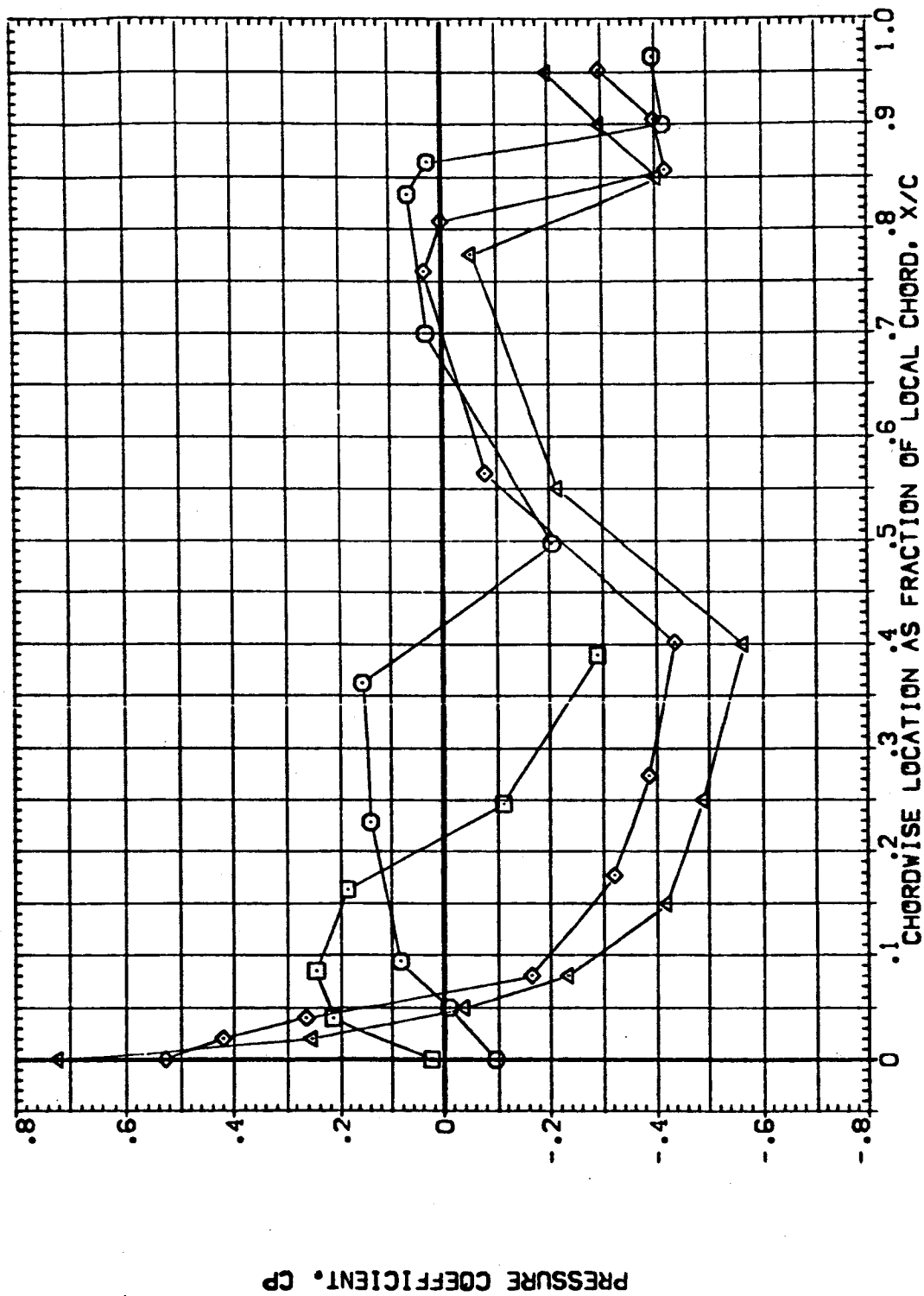


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SR8-OFF MPS-OFF TOP WING(CEUR02)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.641	4.000	.000	RUDER	.000	MACH	1.100
□	.780			GIMBAL	1.000		
◇	.887						

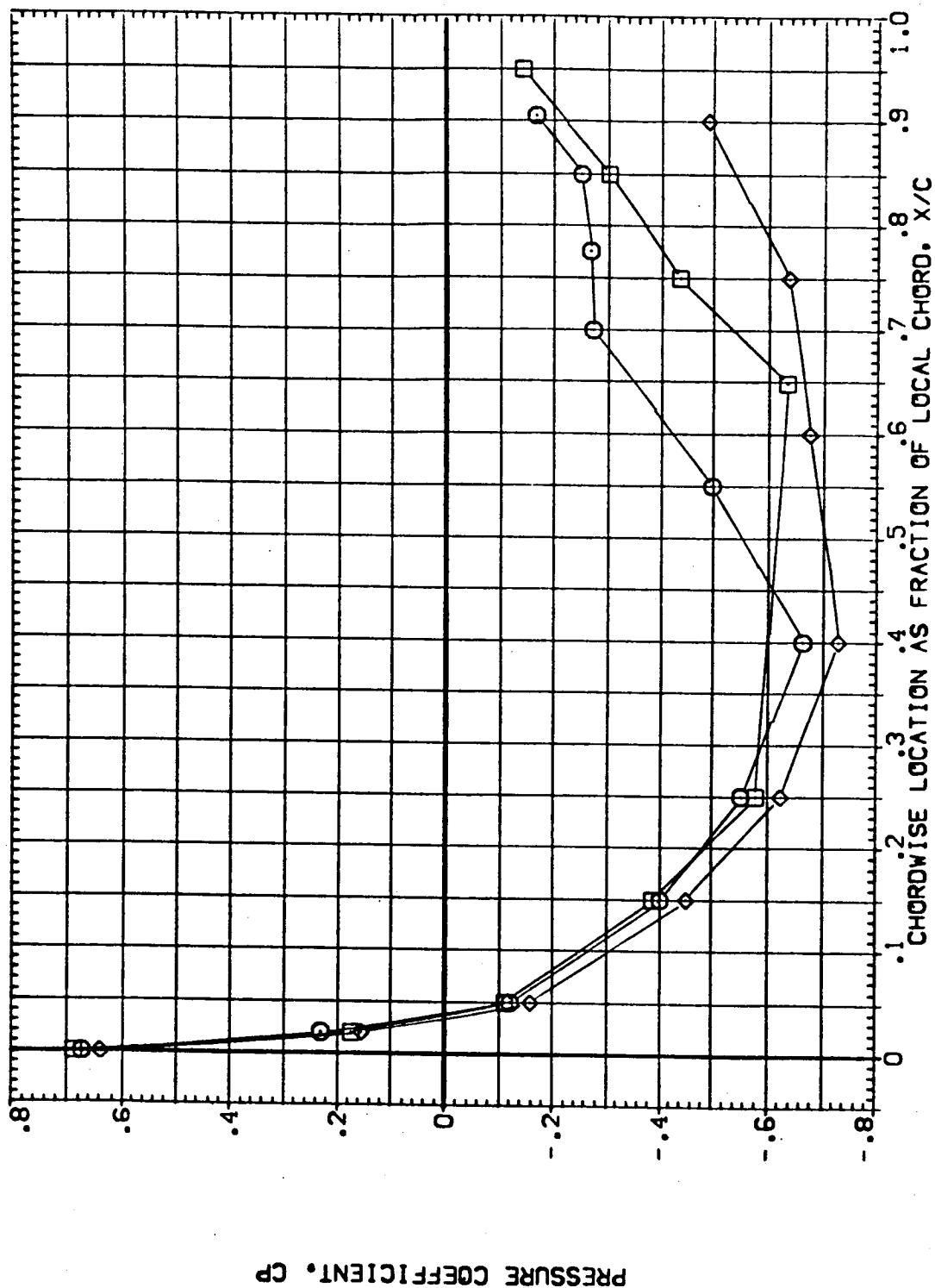


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(BEUR03)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	ELV-08
○	.295	.000	-1.000	RUDER	.000	MACH	1.250
□	.364			GIMBAL	1.000		
◇	.427						
△	.534						

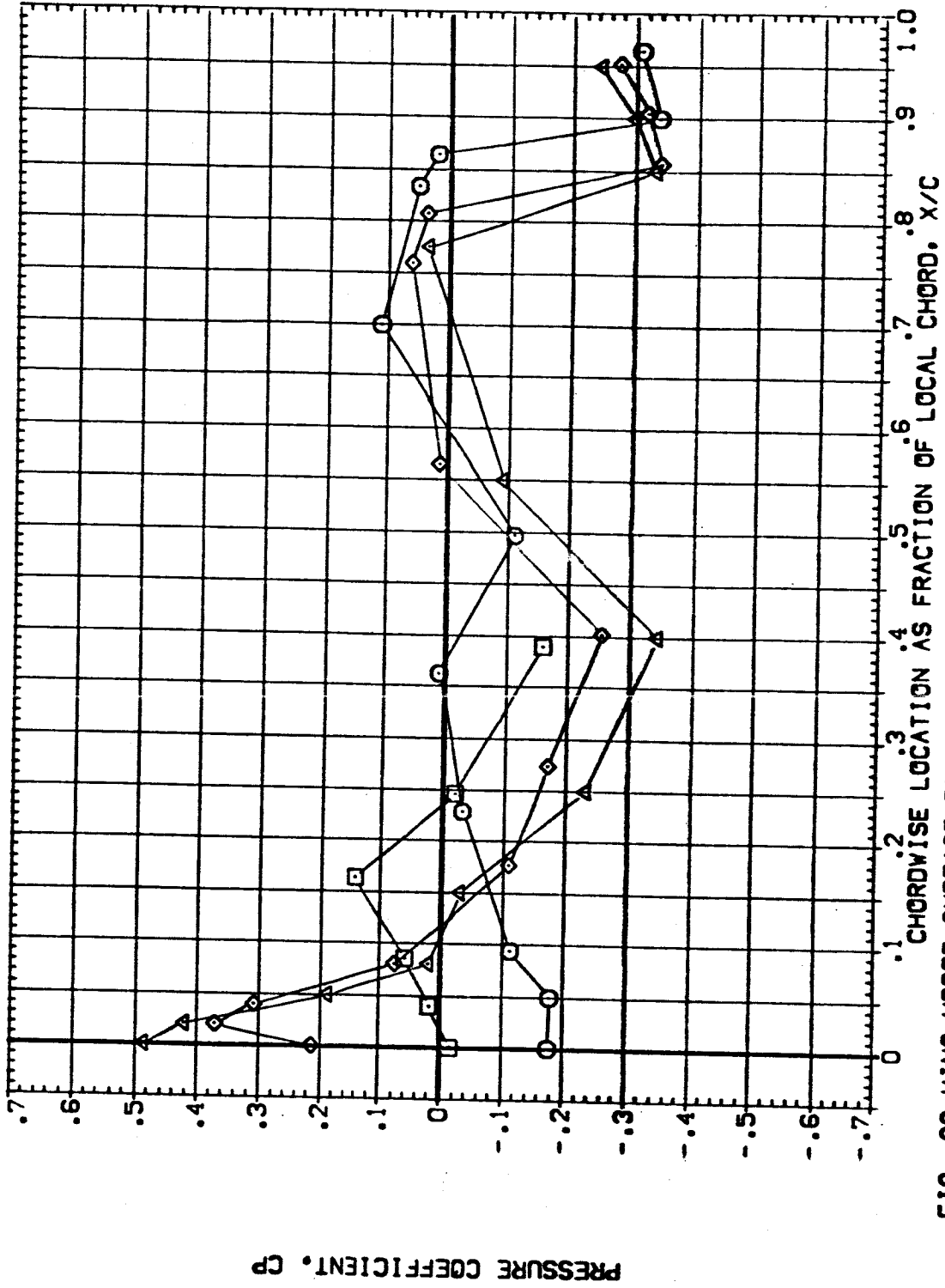


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(BEUR03)

SYMBOL	Z1/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.641	.000	-4.000	RUDER	.000	MACH	1.250
□	.780			GIMBAL	1.000		
◇	.887						

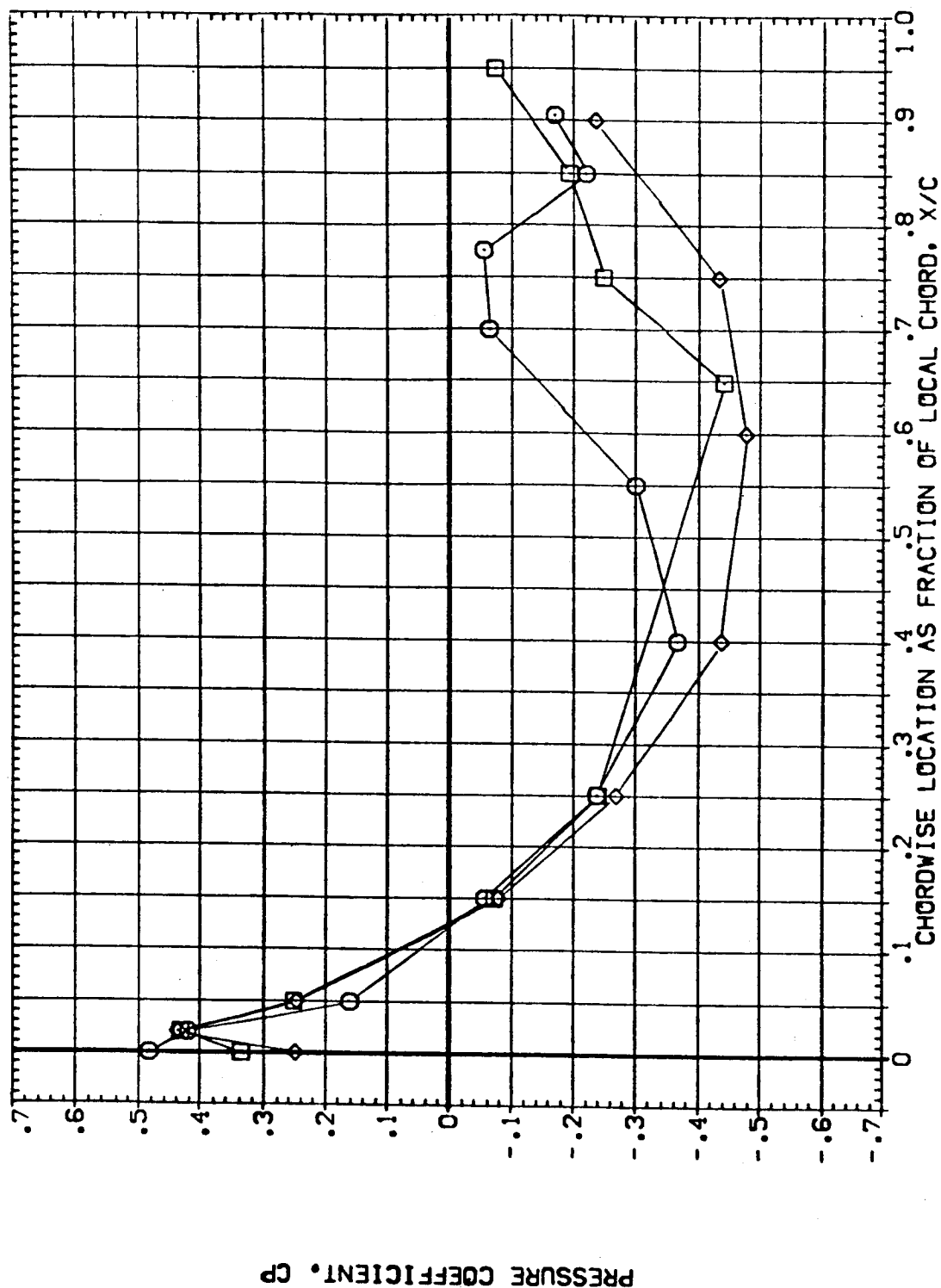


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(BEURO3)

SYMBOL	Z1/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
○	.299	.000	.000	8.000	.000	.000	1.000
□	.364	.000	.000	8.000	.000	.000	1.250
◇	.427	.000	.000	8.000	.000	.000	1.500
△	.534	.000	.000	8.000	.000	.000	1.750

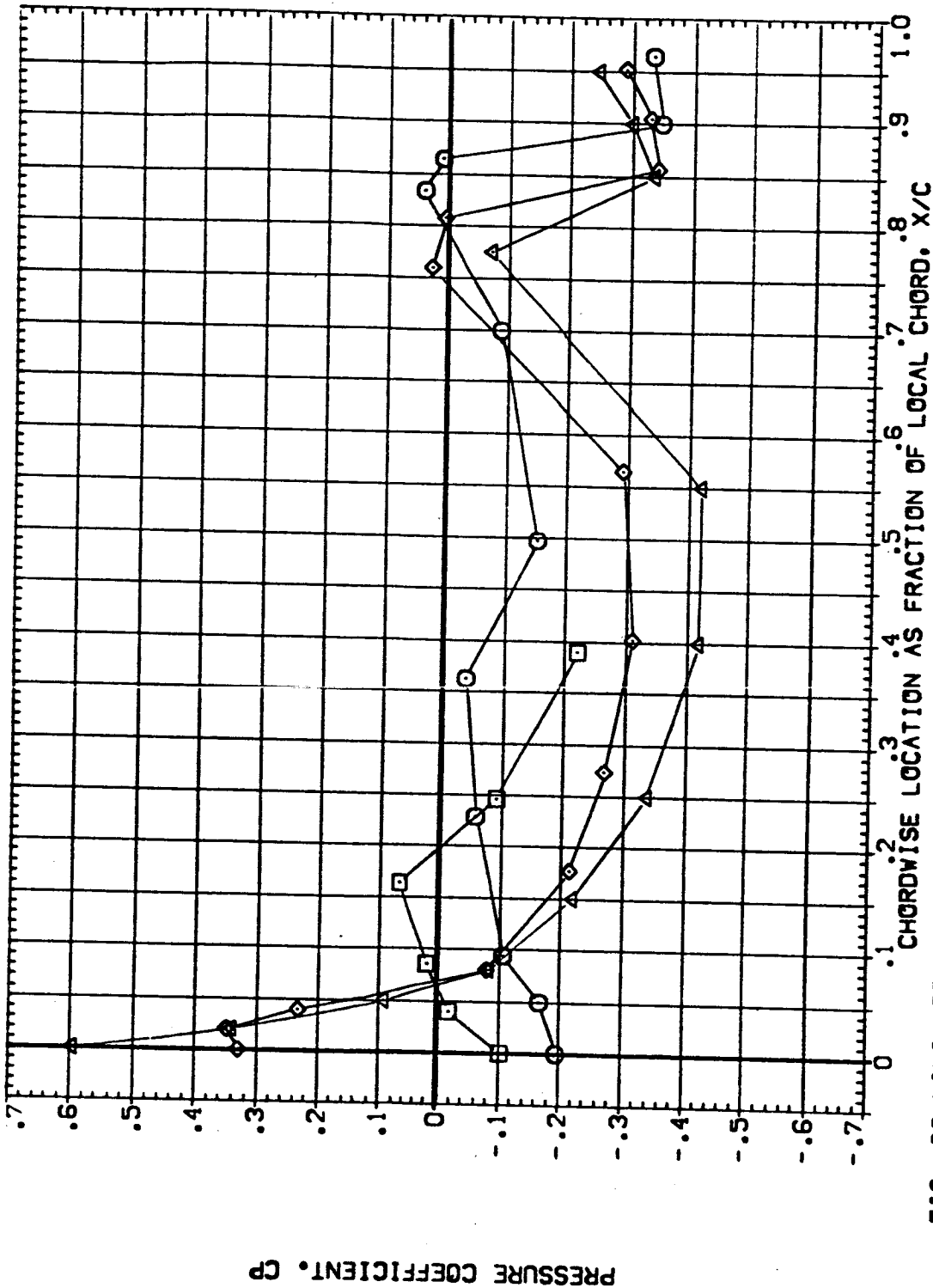


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	2V/B	BETA	ALPHA	PARAMETRIC VALUES
○	.641	.000	.000	ELV-18 8.000 ELV-08 4.000
□	.780	.000	.000	RUDER .000 MACH 1.250
◇	.887	.000	.000	GIMBAL 1.000

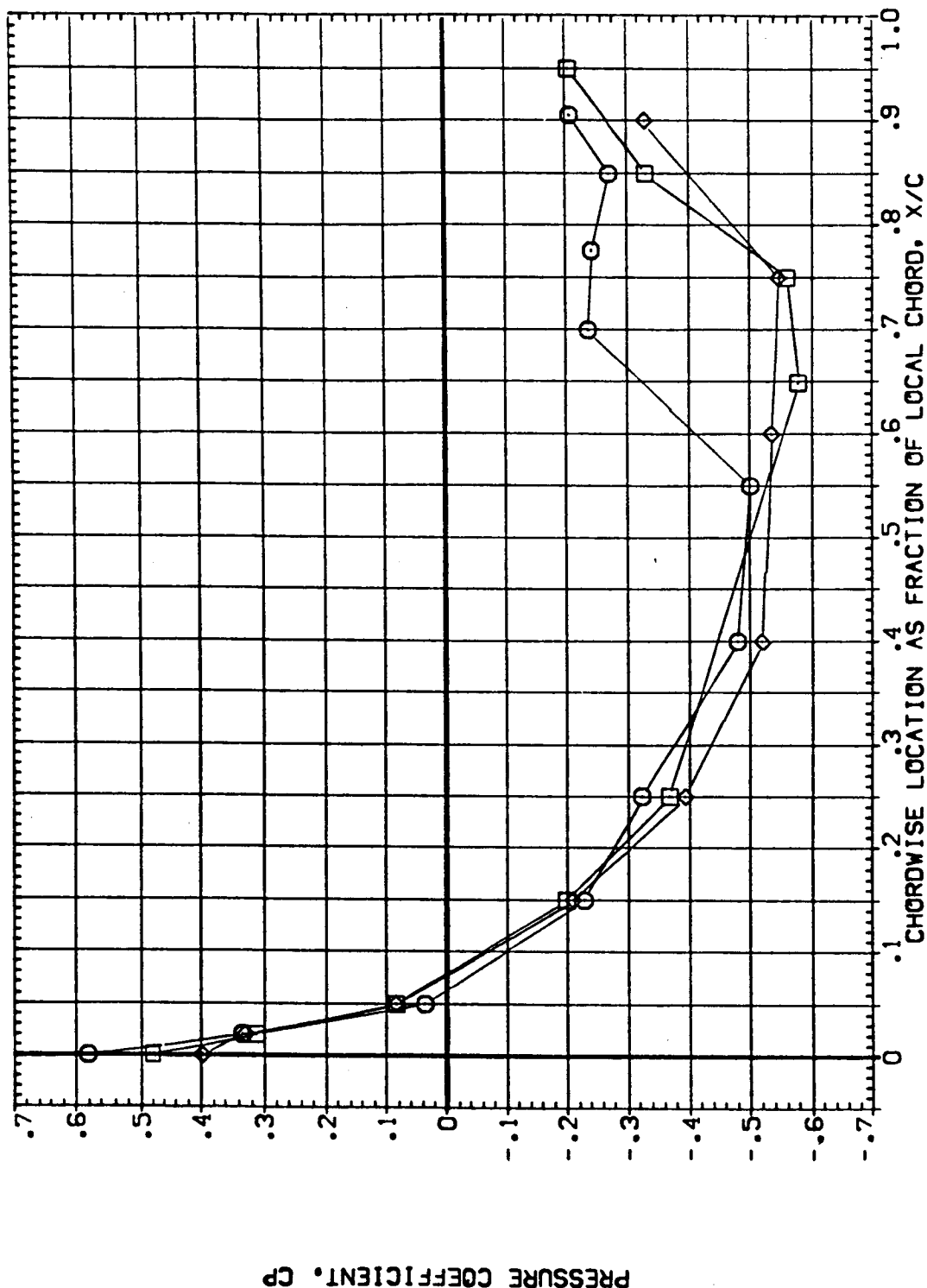


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(BEURO3)

SYMBOL 21/B BETA ALPHA

○ .299 .000 4.000

□ .364 .000 4.000

◇ .427 .000 4.000

△ .534 .000 4.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.250

GIMBAL 1.000

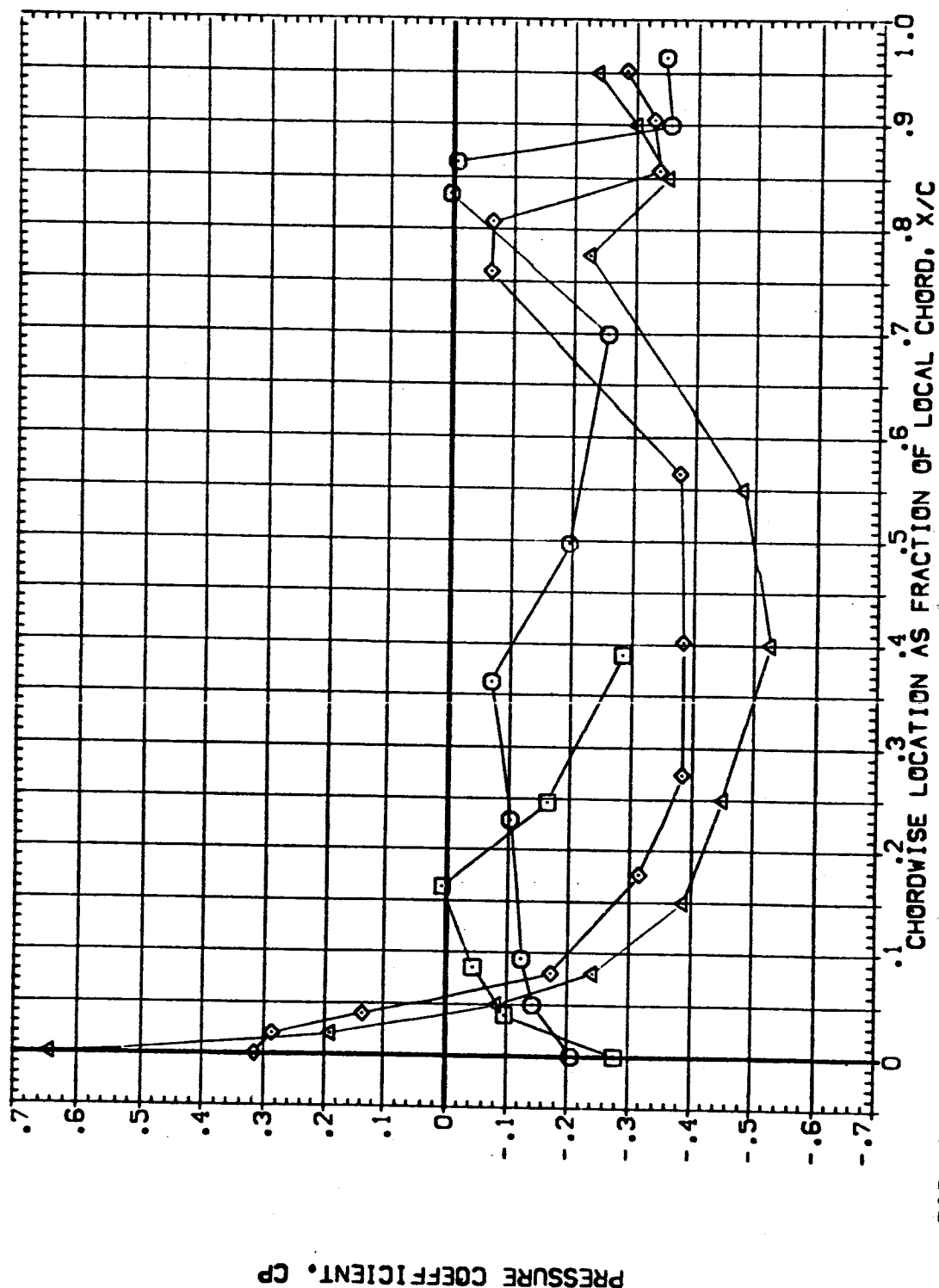


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	2Y/B	BETA	ALPHA	ELV-IB	PARAMETRIC VALUES	
○	.641	.000	4.000	ELV-OB	8.000	
□	.780			RUDER	.000	
◇	.887			GIMBAL	1.000	
					MACH	1.250
						4.000

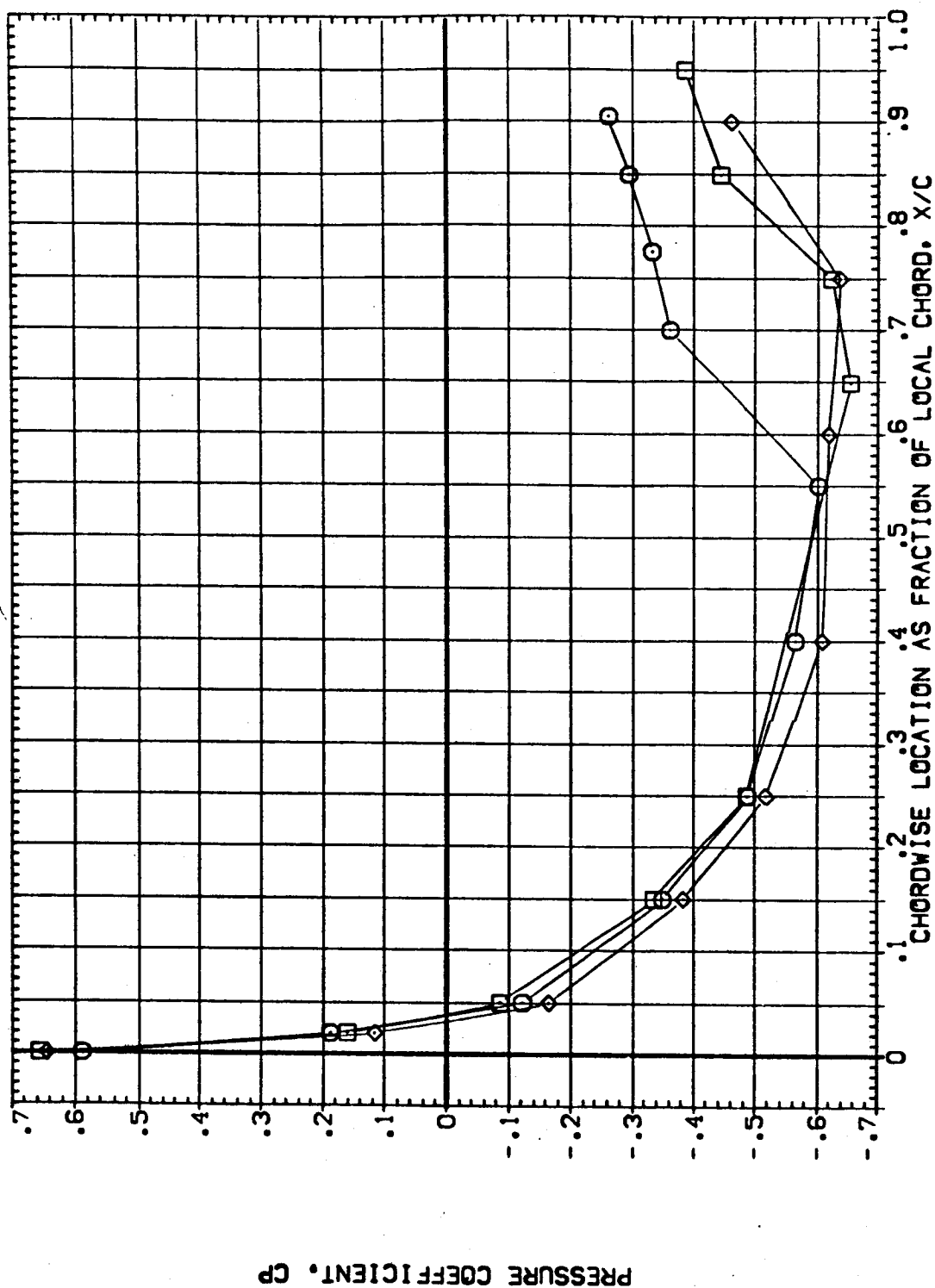


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(CEURO3)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES
○	.299	-4.000	.000	ELV-18 8.000 ELV-09 4.000
□	.364			RUDER .000 MACH 1.250
◇	.427			GIMBAL 1.000
△	.534			

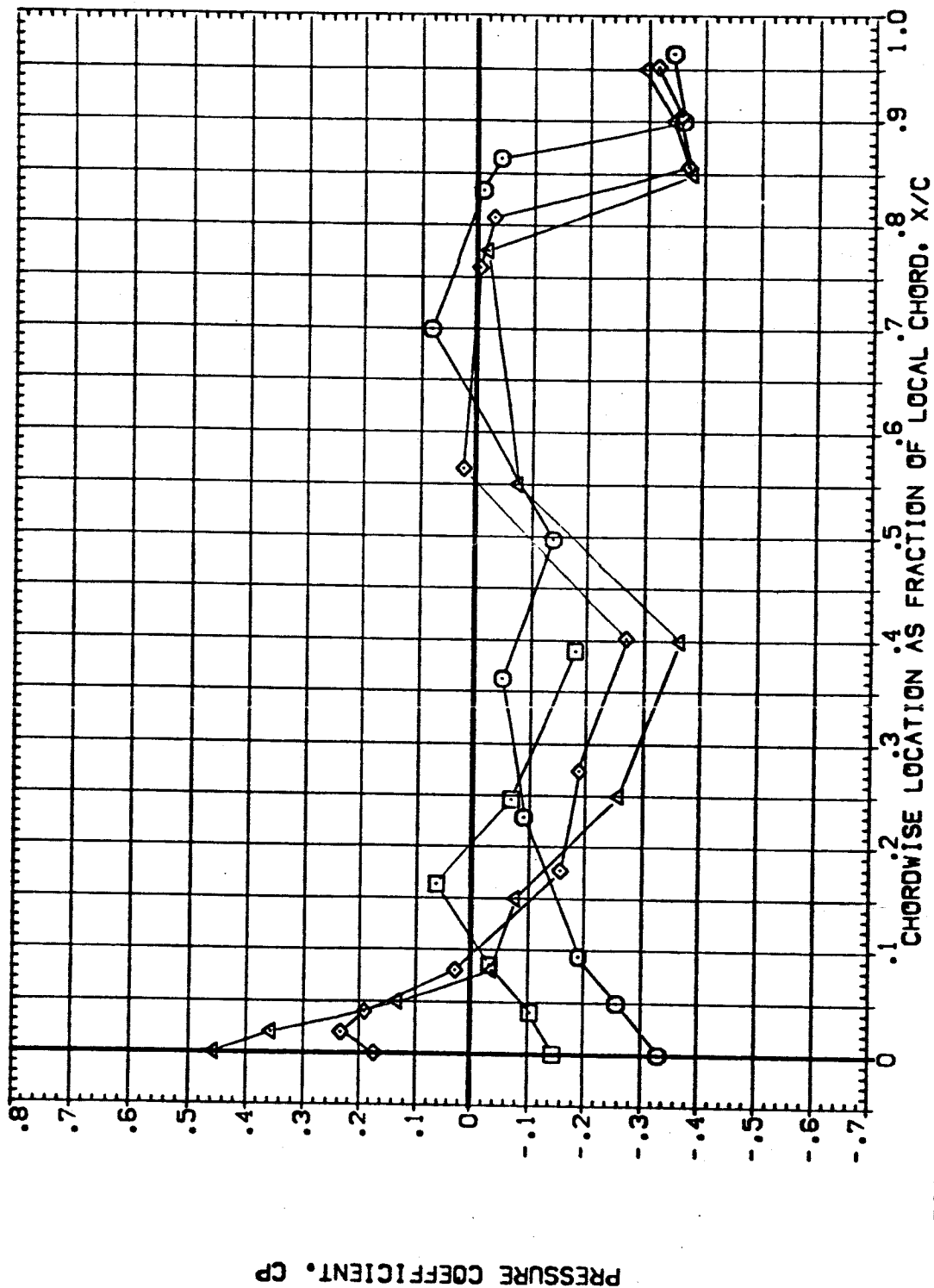


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

AKL11-0141A19 DIS+STRUT SRB-OFF MPS-OFF TOP WING(CEURO3)

SYMBOL	21/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.641	-1.000	.000	ELV-18	ELV-08		4.000
□	.780			RUDER			1.250
◇	.887			GIMBAL			

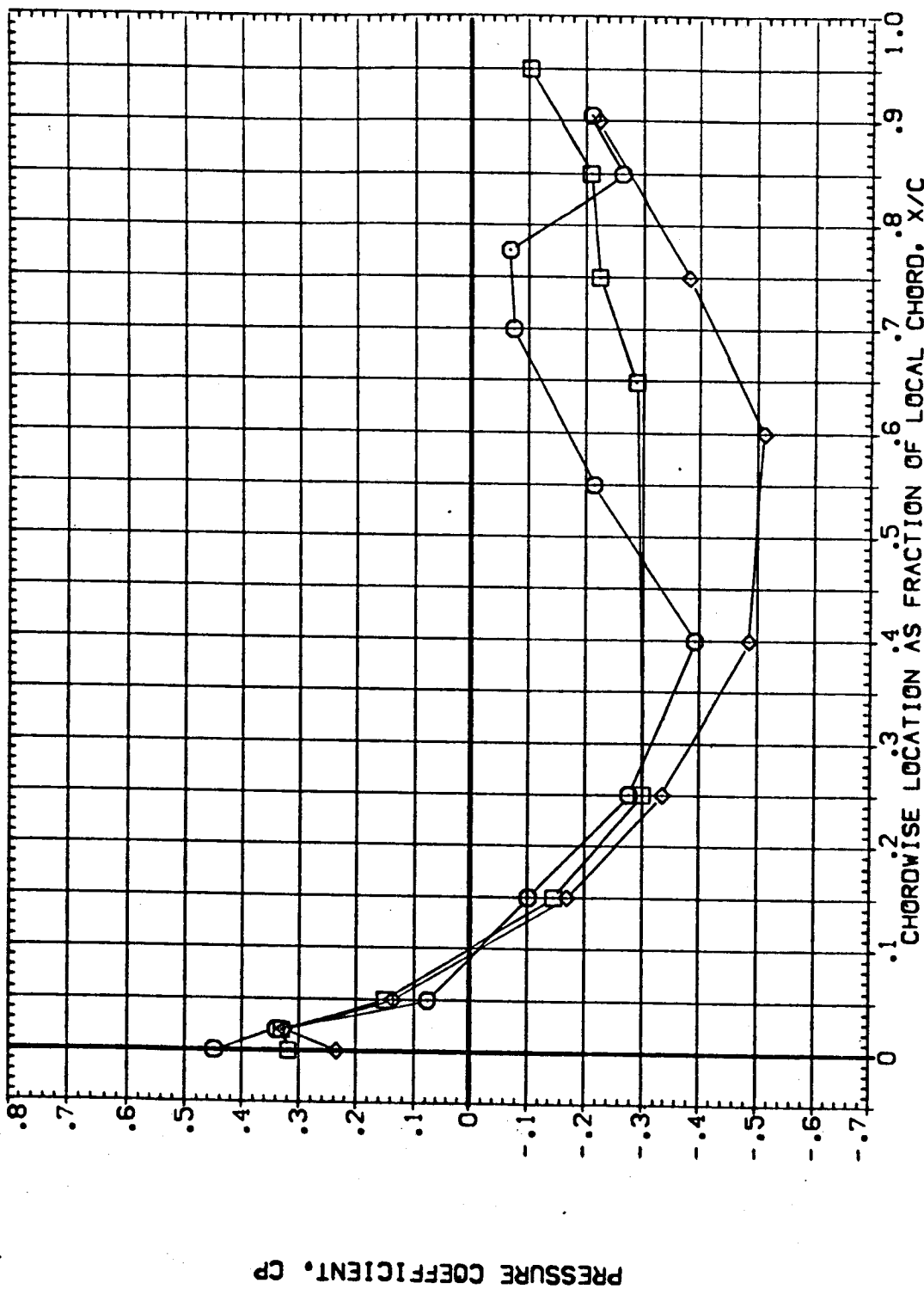


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(CEURO3)

SYMBOL	21/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.299	4.000	.000	8.000	.000	1.000	4.000
□	.364			RUDDER			1.250
◇	.427			GIMBAL			
△	.534						

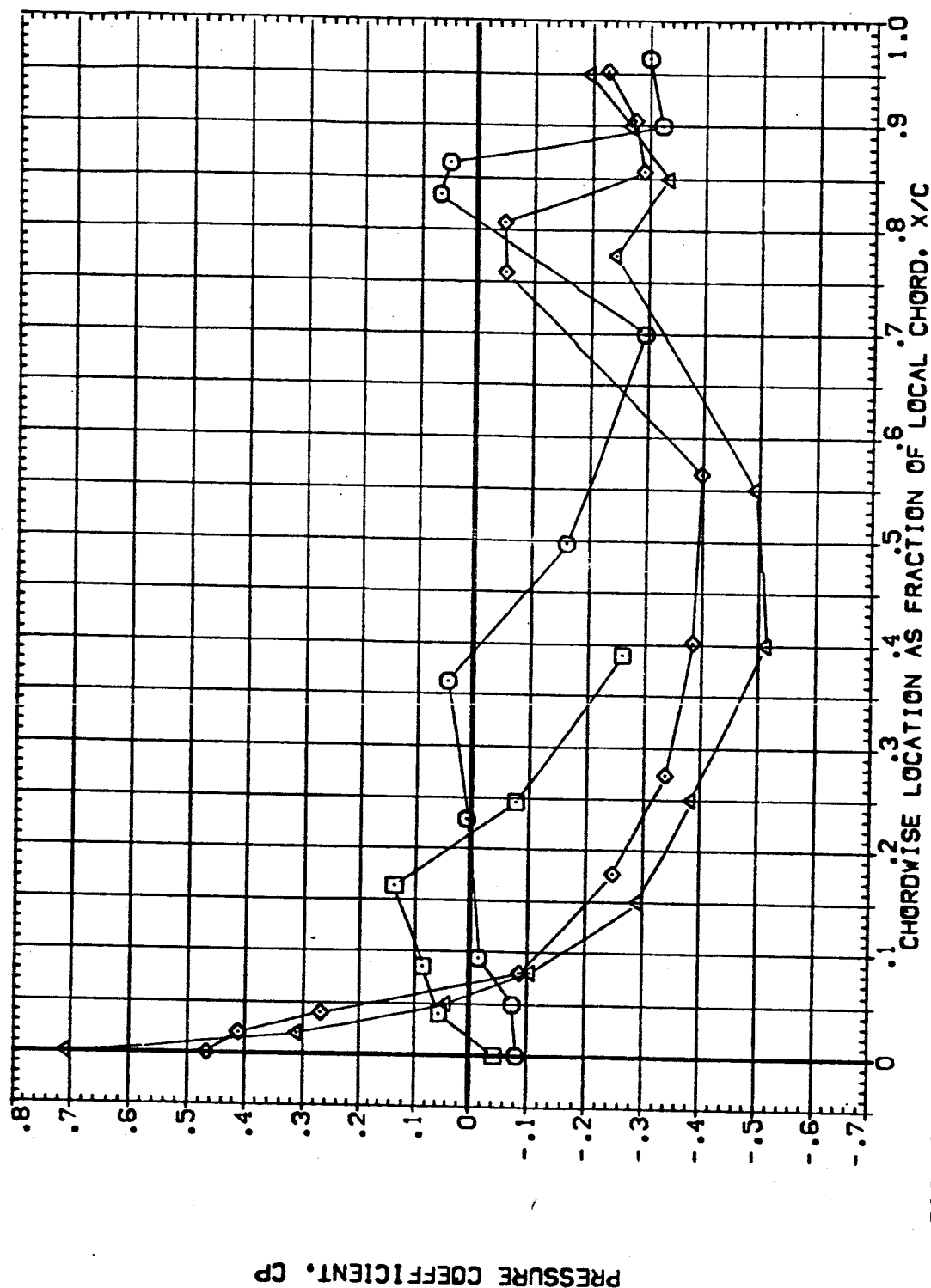


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	21/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	4.000
○	.641	4.000	.000	RUDER	.000	MACH	1.250
□	.780			GIMBAL	1.000		
◇	.887						

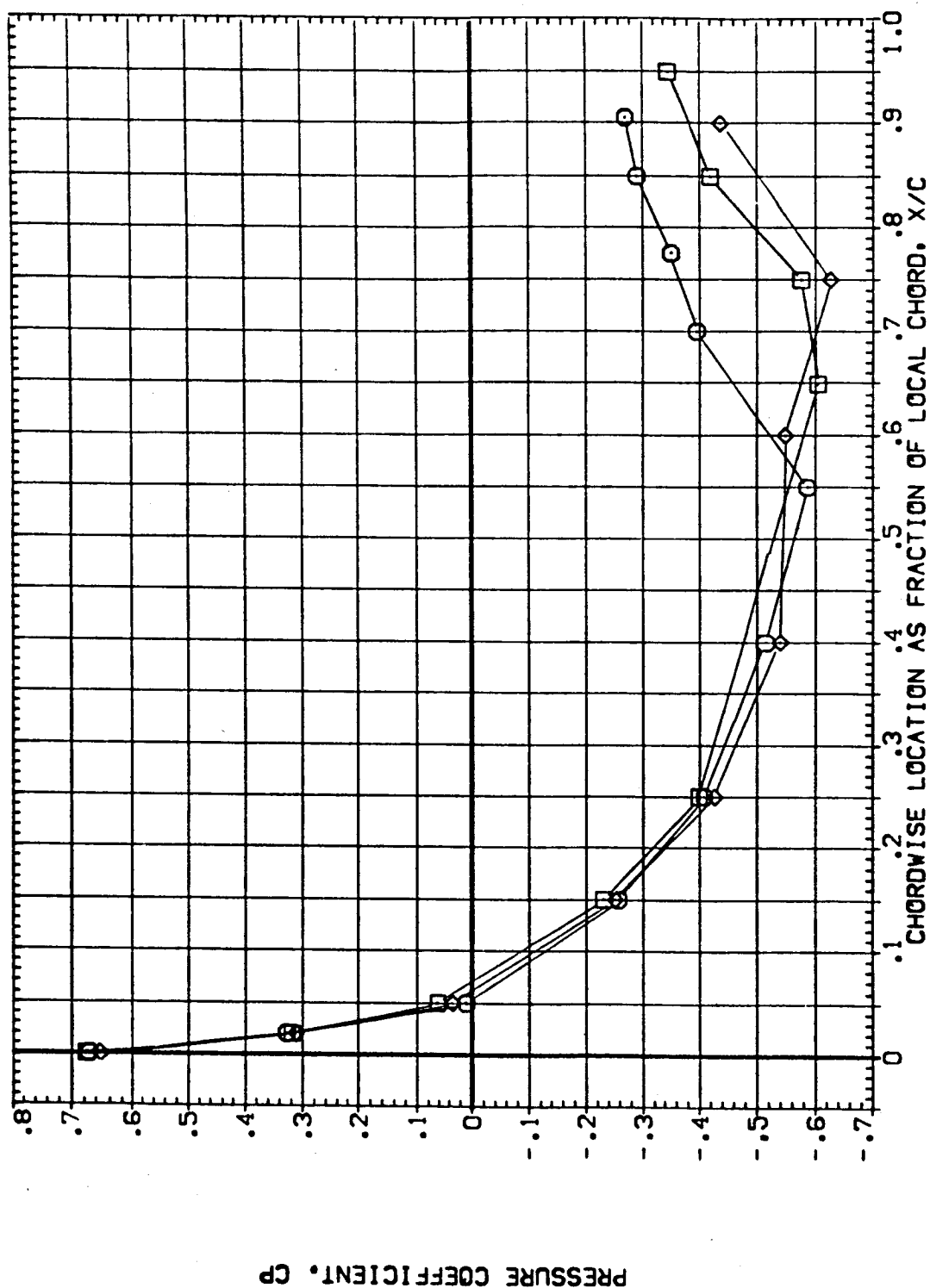


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(BEUR04)

SYMBOL 21/8 BETA ALPHA

○ .259 .000 -4.000

□ .364 .000 -4.000

◇ .427 .000 -4.000

△ .534 .000 -4.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.400

GIMBAL 1.000

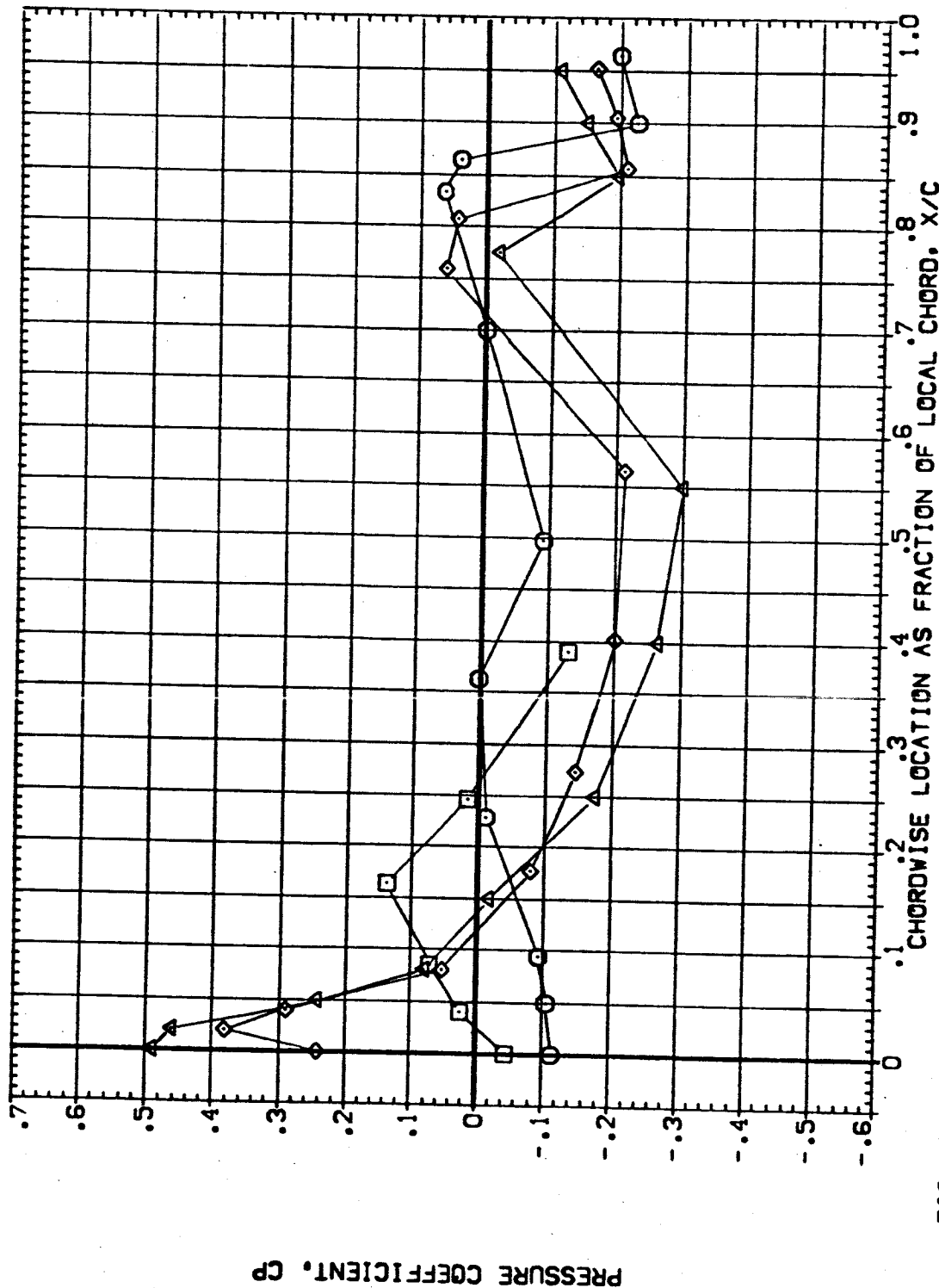


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING (BEURO4)

SYMBOL	Z/Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.641	.000	-4.000	RUDDER	.000	1.000	4.000
□	.780			GIMBAL			1.400
◇	.687						

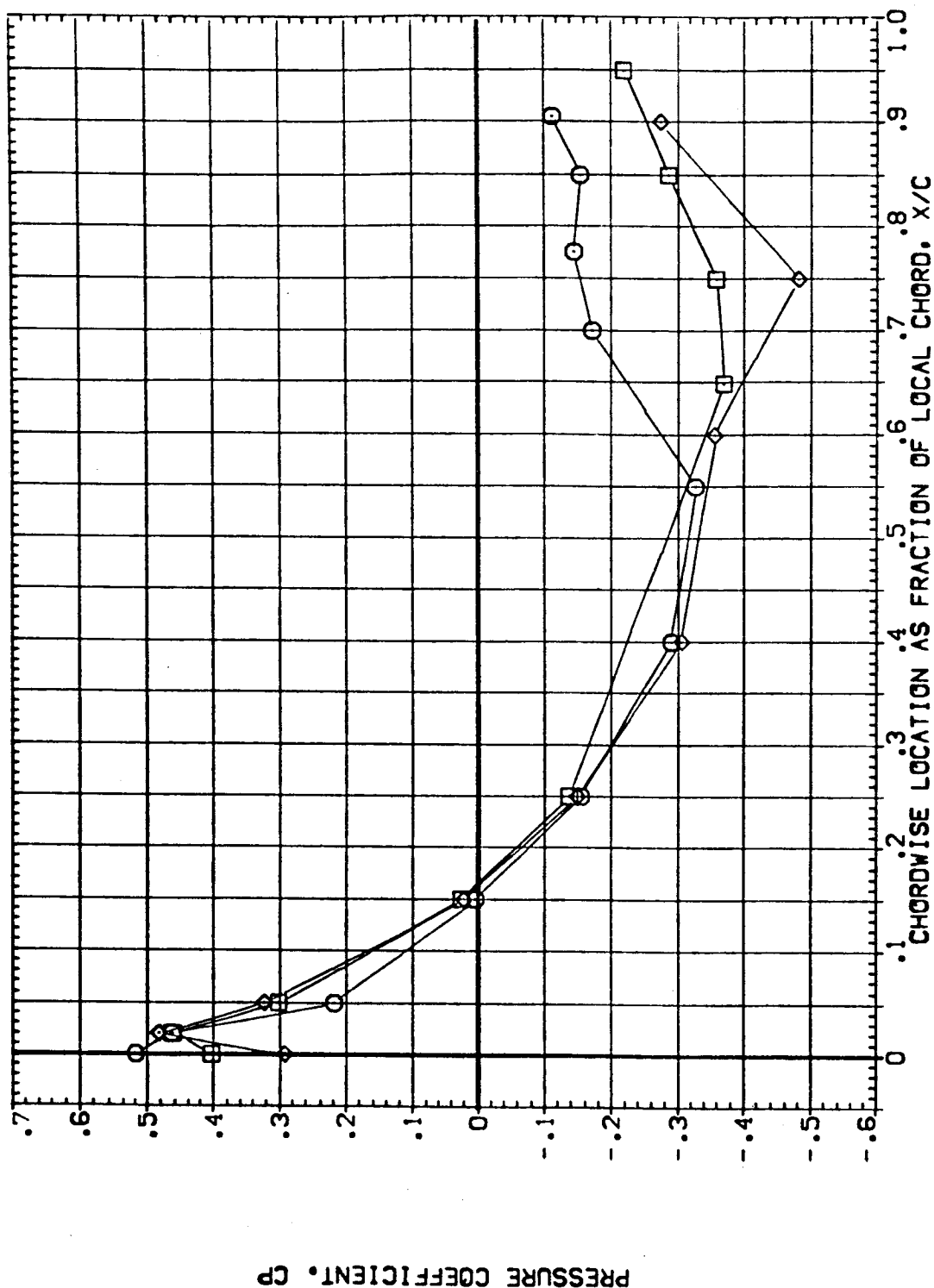


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(BEUR04)

SYMBOL	21/8	BETA	ALPHA	ELV-19	ELV-08	PARAMETRIC VALUES
○	.299	.000	.000	RUDDER	.000	MACH
□	.364			GIMBAL	1.000	
◇	.427					
△	.534					

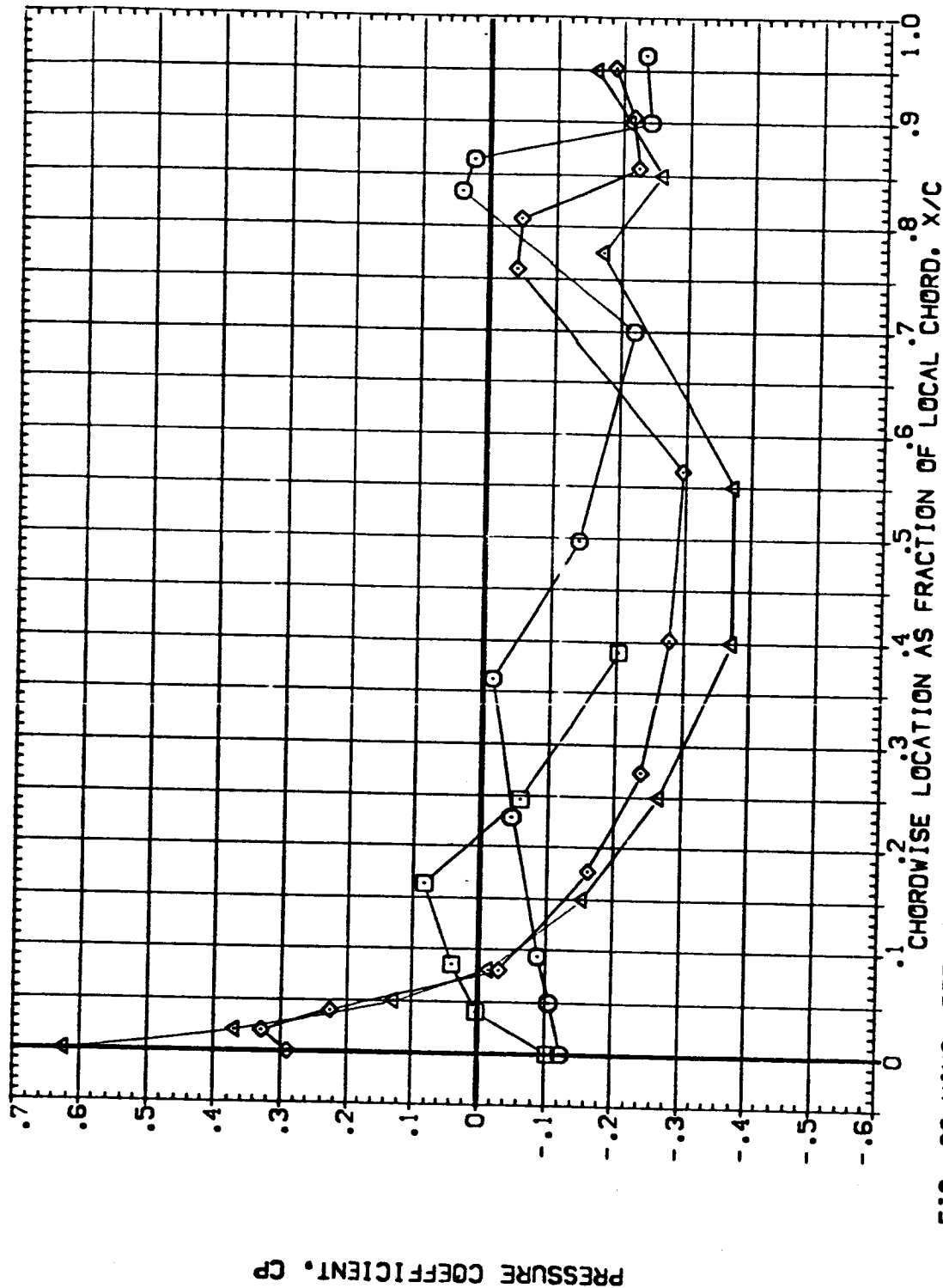


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(BEUD04)

SYMBOL
 ○
 □
 ◇
 △

2Y/B
 .299
 .364
 .427
 .534

BETA
 .000
 1.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

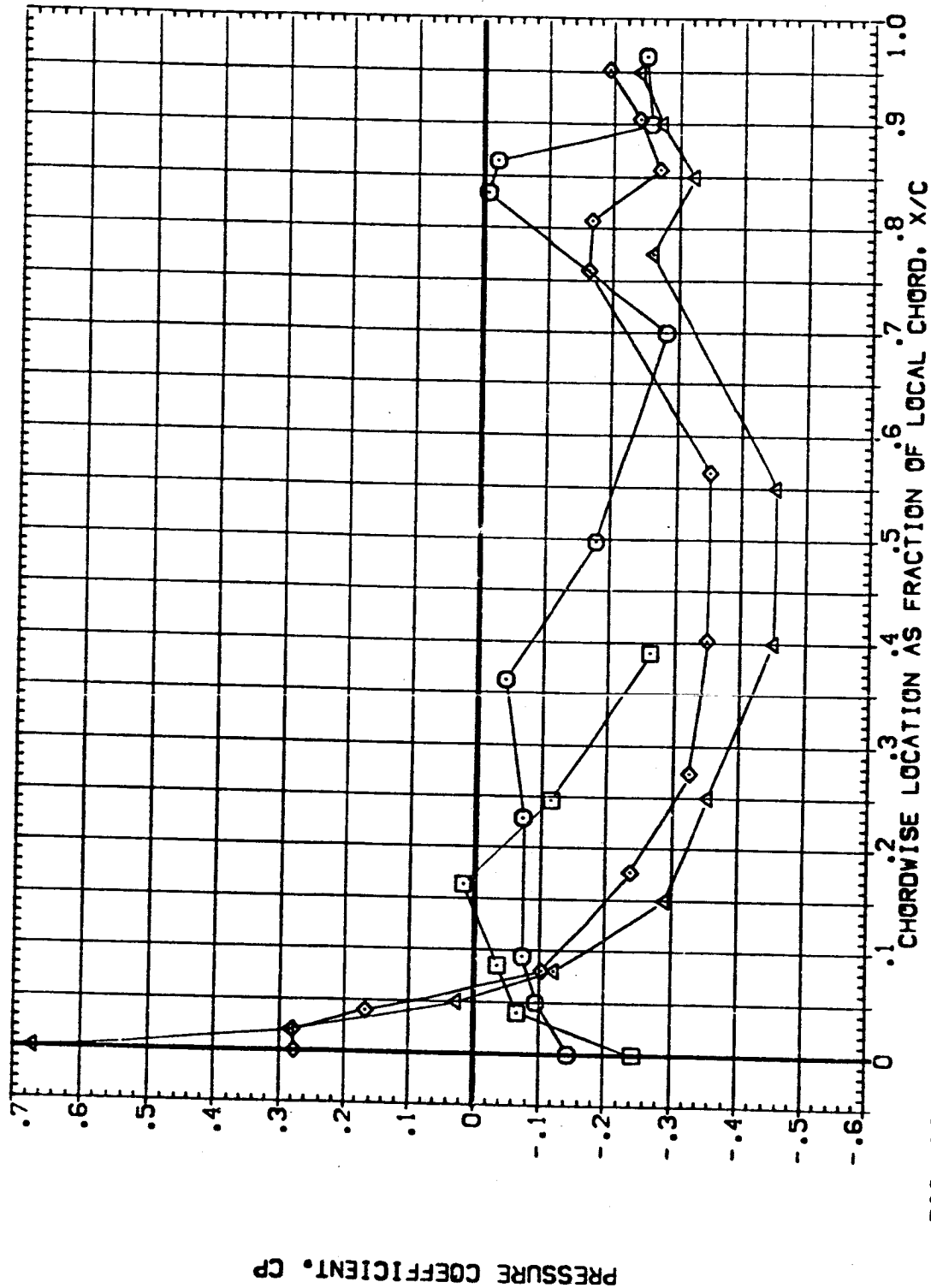


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	21/8	BETA	ALPHA	ELV-18	ELV-08
○	.641	.000	4.000	9.000	4.000
□	.760			RUDER	.000
◇	.687			GIMBAL	1.000

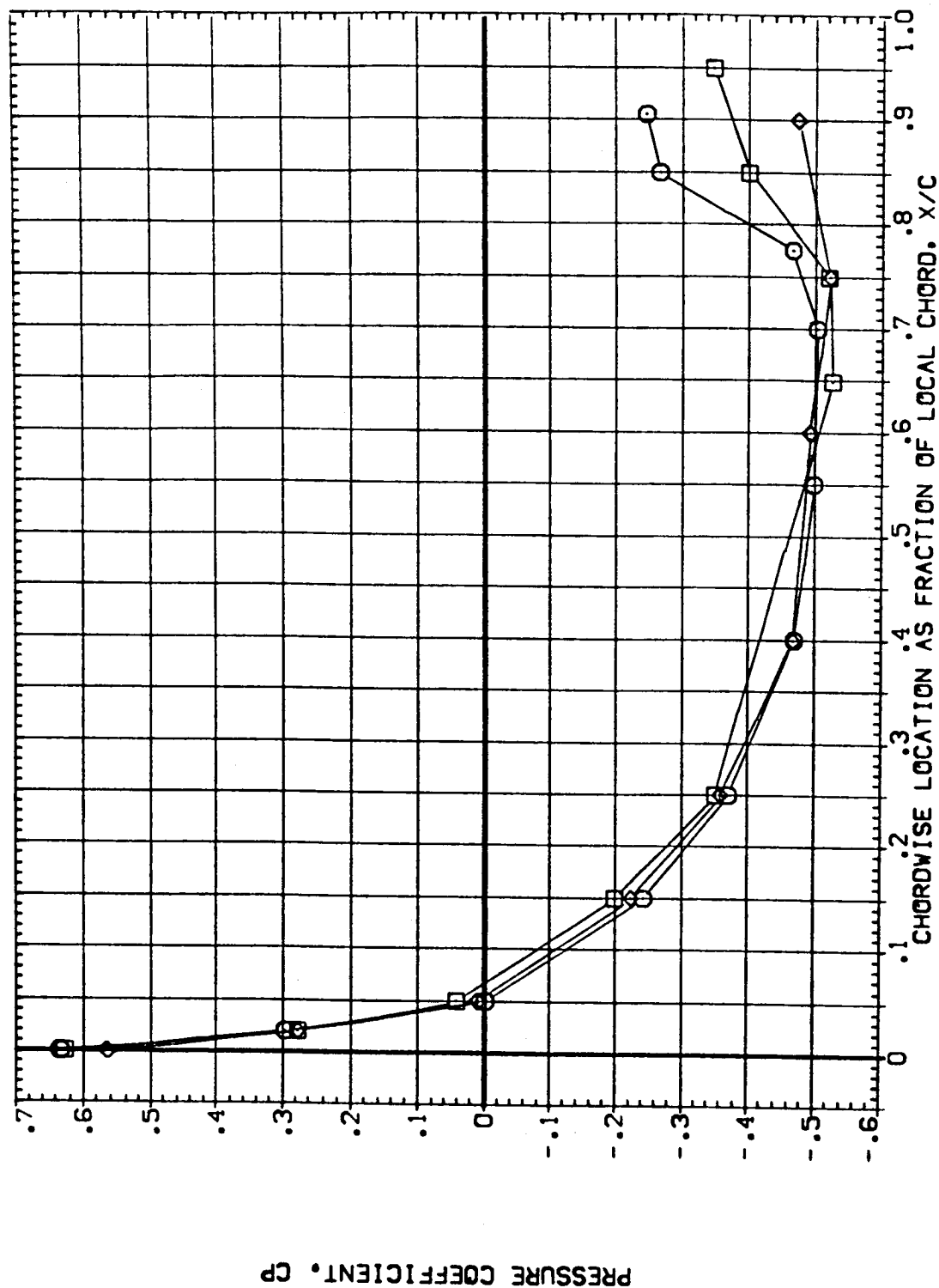


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(CEURO4)

SYMBOL	Z/Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-19	ELV-09	MACH	
□	.299	-1.000	.000	8.000	8.000	1.000	4.000
◇	.364			RUDER			1.400
△	.427			GIMBAL			
	.534						

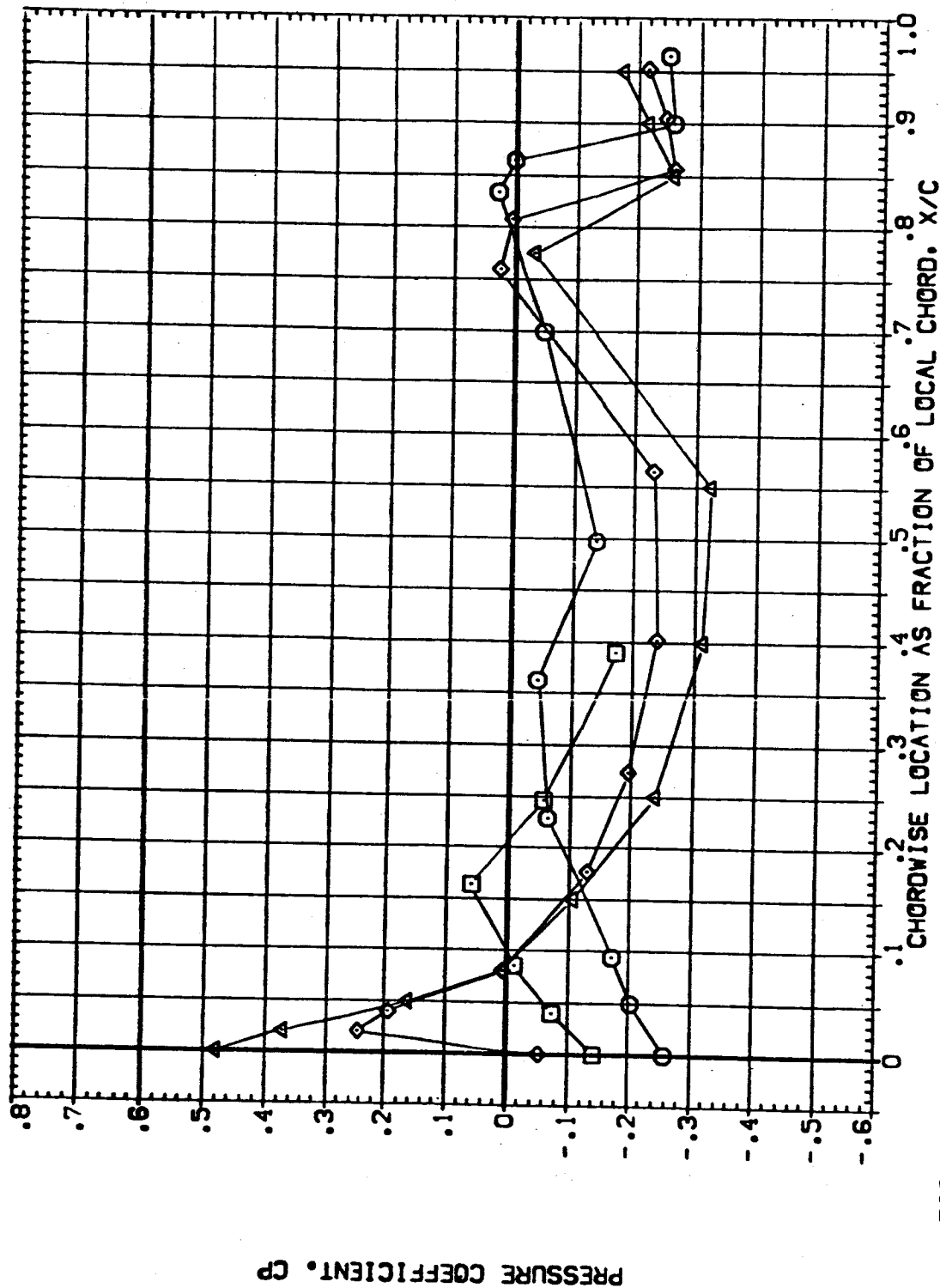


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	21/8	BETA	ALPHA	ELV-18	ELV-09
	.641	-4.000	.000	RUDER	MACH
○	.780			GIMBAL	
□	.687				
◇					

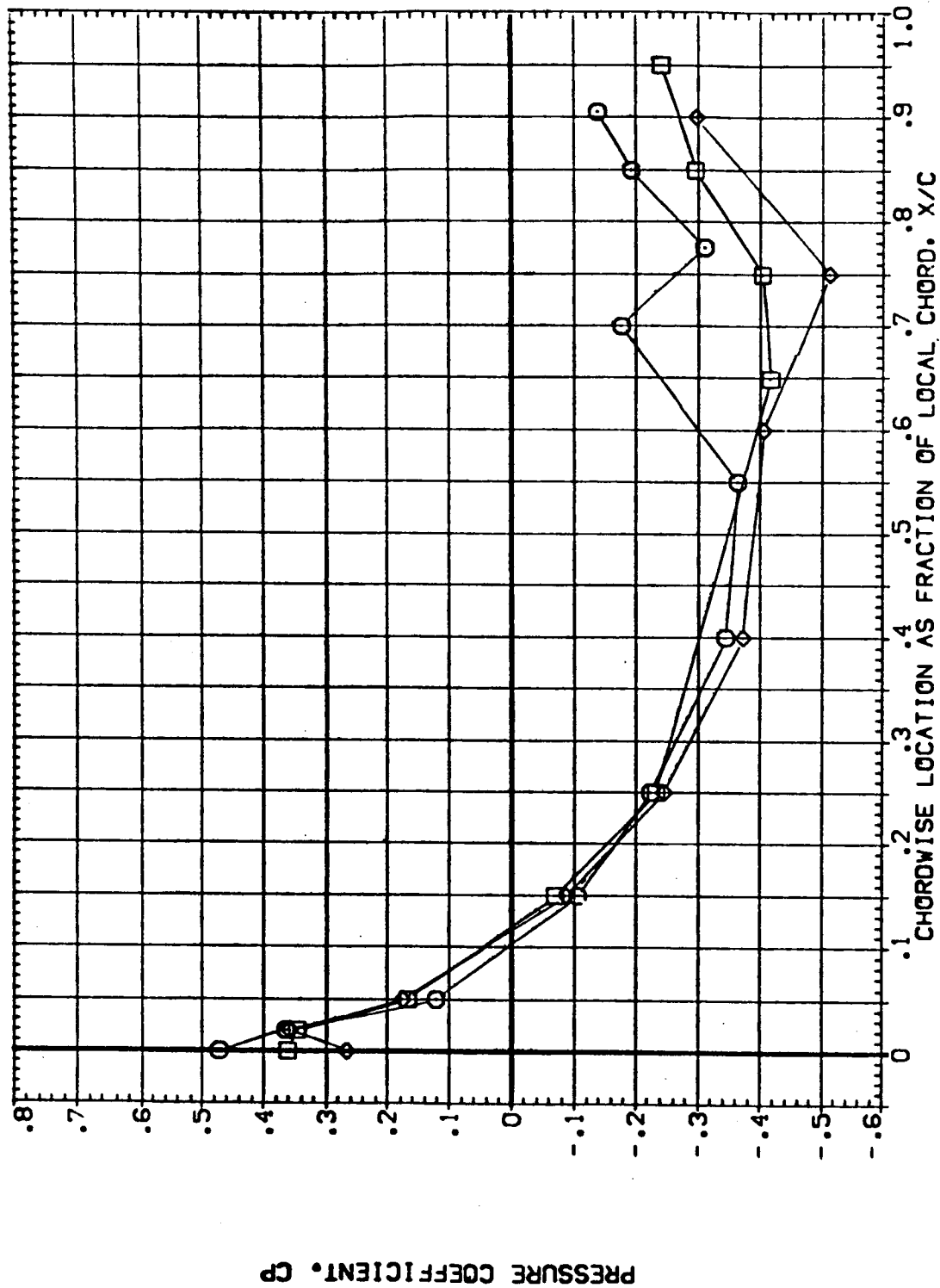


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF TOP WING(CEUR04)

SYMBOL Z/β BETA ALPHA

\diamond	.299	1.000	.000
\square	.364		
\triangle	.427		
	.534		

PARAMETRIC VALUES

ELV-18	ELV-08
RUDDER	MACH
GIMBAL	1.000
	4.000
	1.400

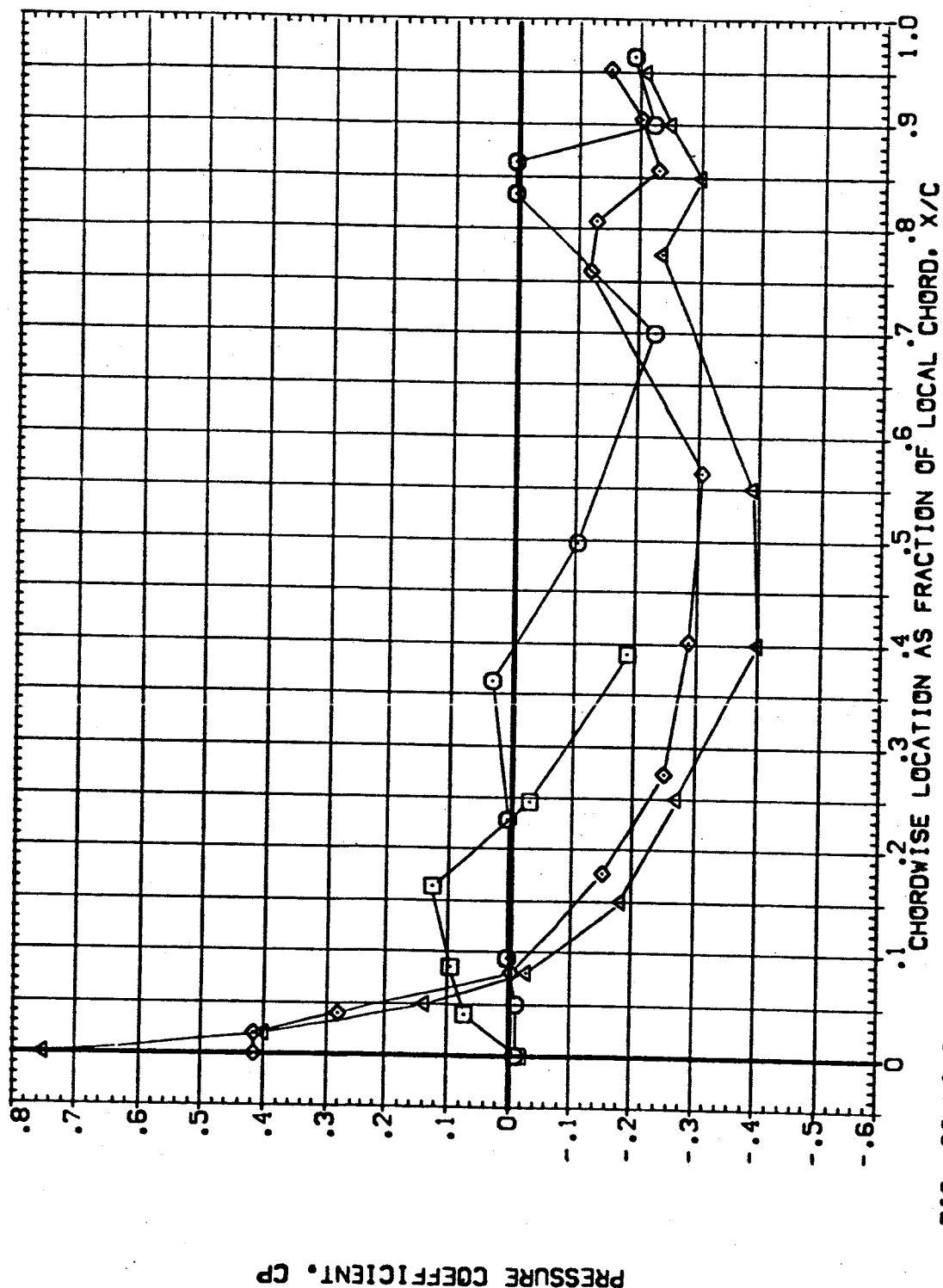


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	Z/Y/B	BETA	ALPHA	PARAMETRIC VALUES		
				ELV-18	ELV-08	ELV-00
○	.641	4.000	.000	RUDDER	.000	MACH
□	.780			GIMBAL	1.000	
◇	.887					

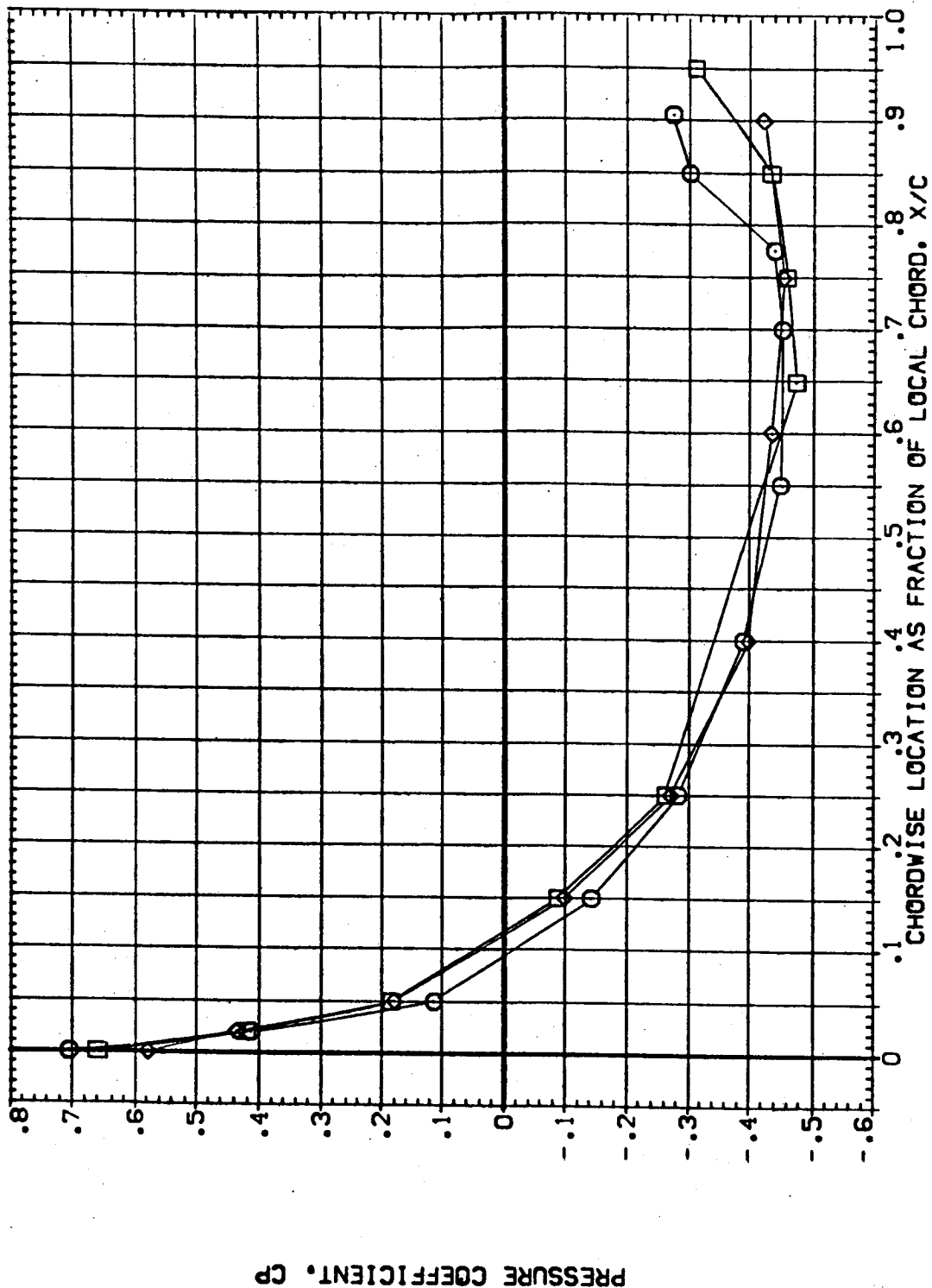


FIG. 93 WING UPPER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EEURO5)

SYMBOL 21/8 BETA ALPHA
 ○ .299 .000 -1.000
 □ .364 .000 -1.000
 ◇ .427 .000 -1.000
 △ .534 .000 -1.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

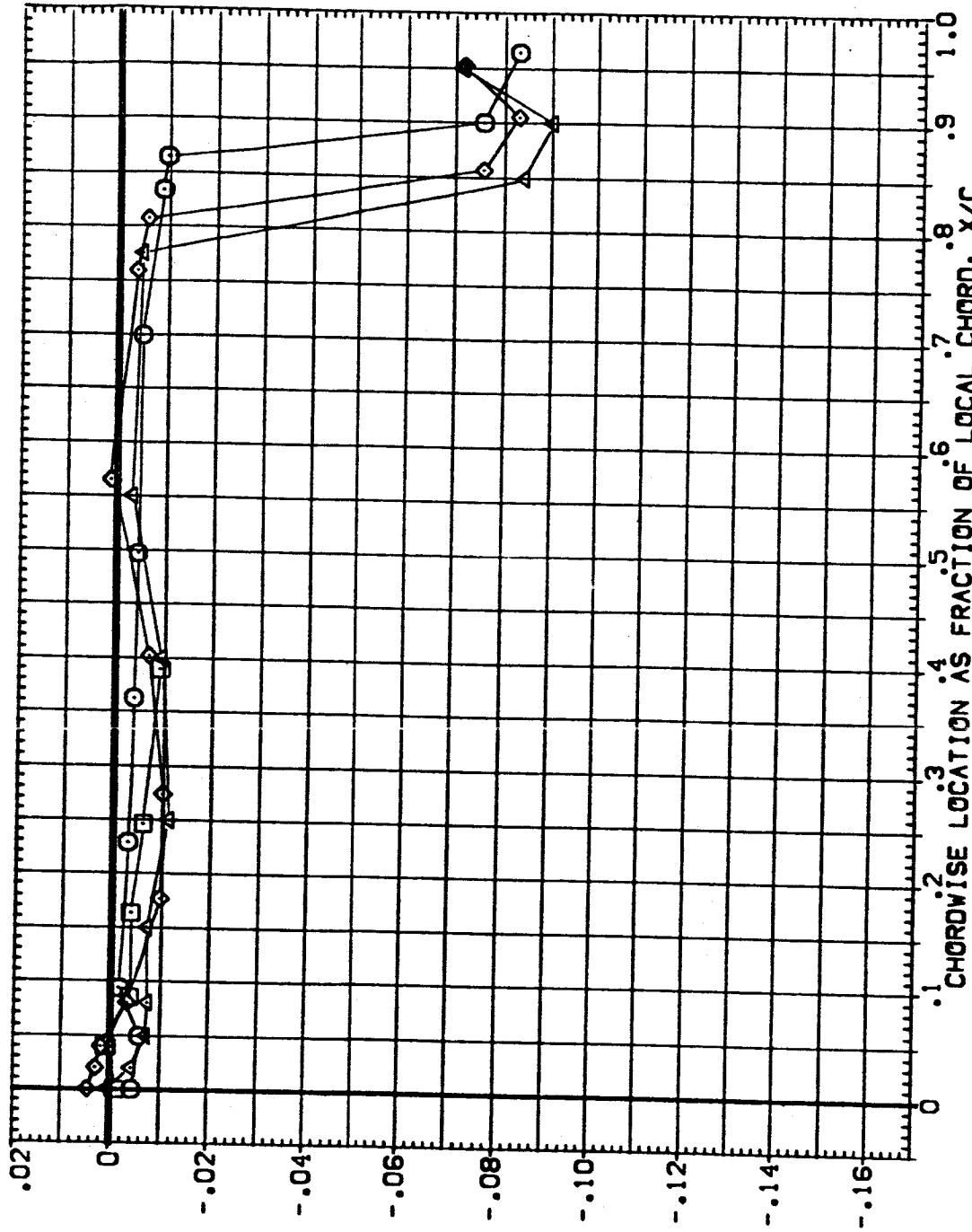


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 QIS+STRUT SRB-NOM MPS-NOM TOP WING (EEURO5)

SYMBOL 2Y/B BETA ALPHA

PARAMETRIC VALUES
ELV-1B 8.000 ELV-09 4.000
RUDDER .000 MACH .900
GIMBAL 1.000

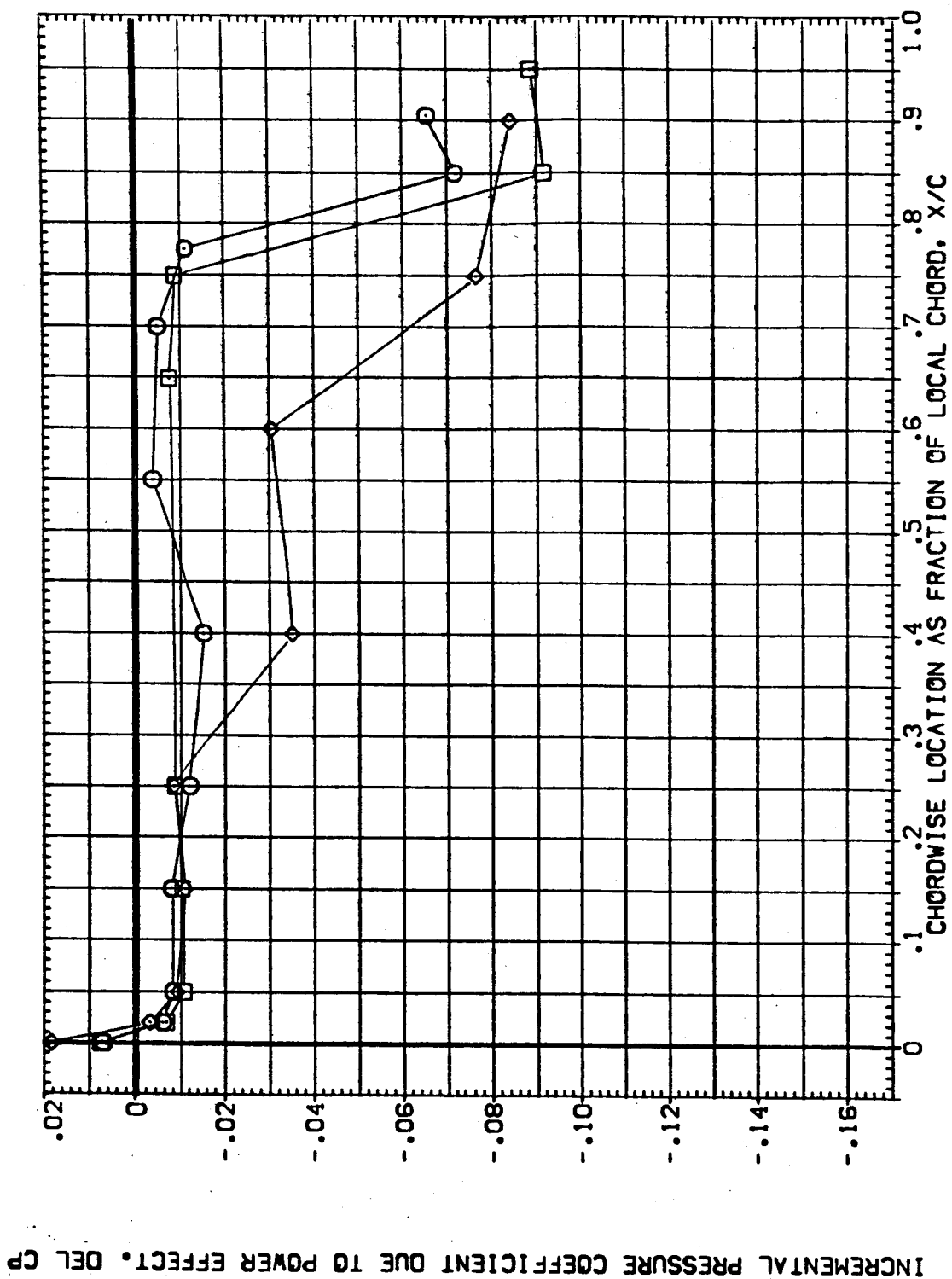


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EEURO5)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	ELV-08
○	.299	.000	.000	RUDER	.000	MACH	1.000
□	.364	.000	.000	GIMBAL	1.000		
◇	.427						
△	.534						

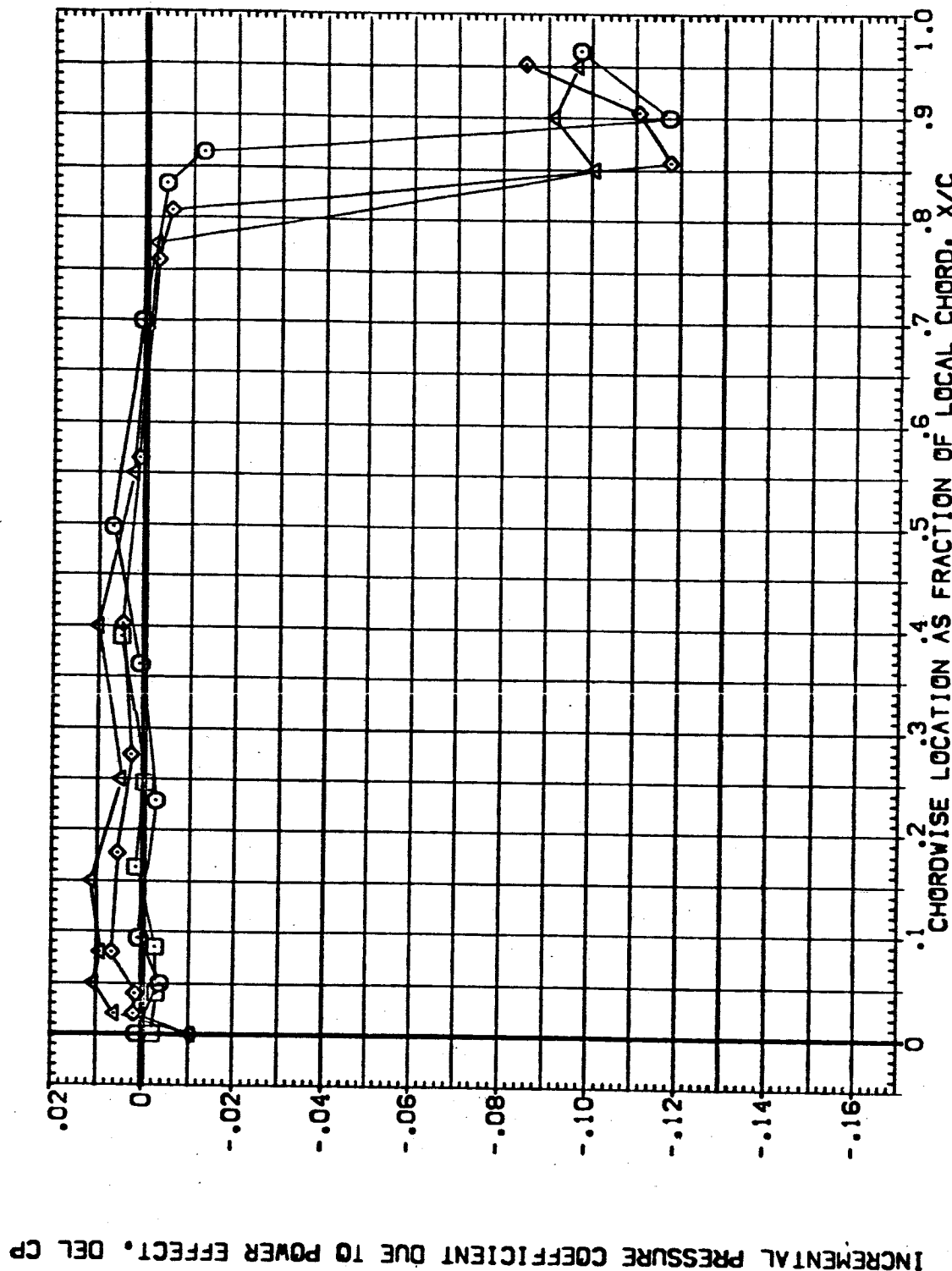


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL 21/8 BETA ALPHA
 .641 .000 .000
 .780
 .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

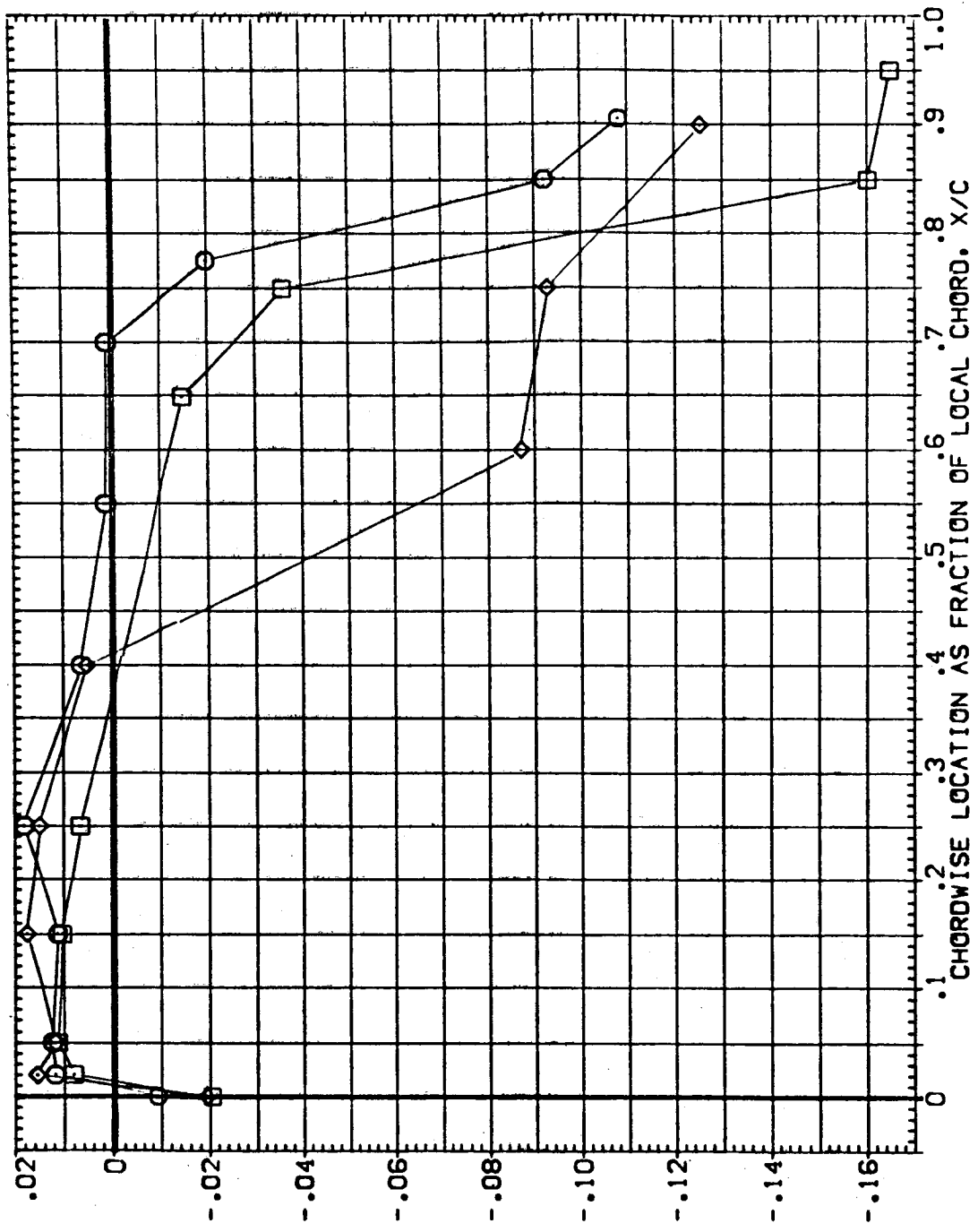


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EURO5)

SYMBOL	Z1/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	ELV-08
○	.299	.000	4.000	RUDER	.000	MACH	.900
□	.364			GIMBAL	1.000		
◇	.427						
△	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

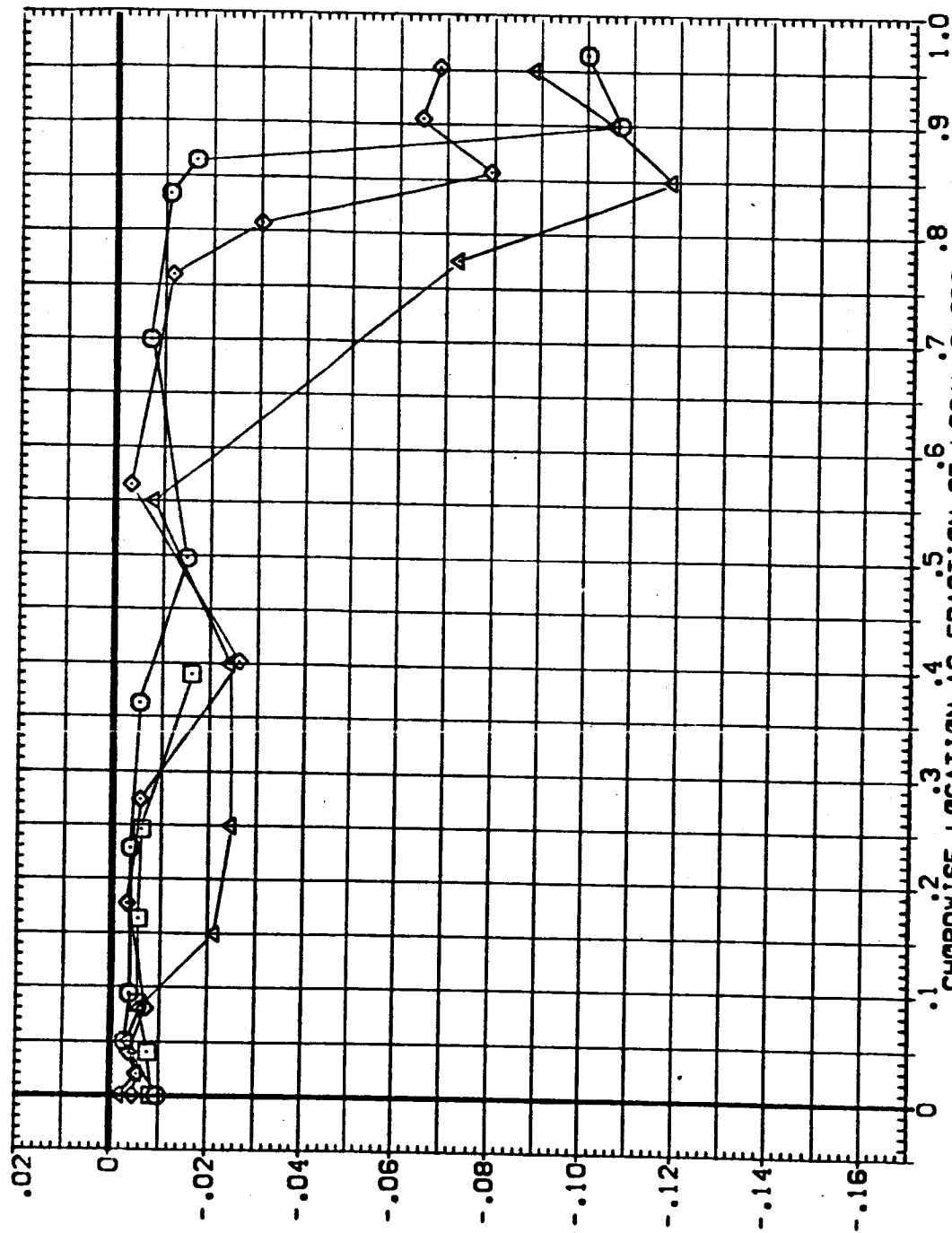


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EEUR05)

SYMBOL	2N/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-00	MACH
○	.541	.000	4.000	RUDER	.000	1.000	.900
□	.780			GIMBAL			
◇	.887						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

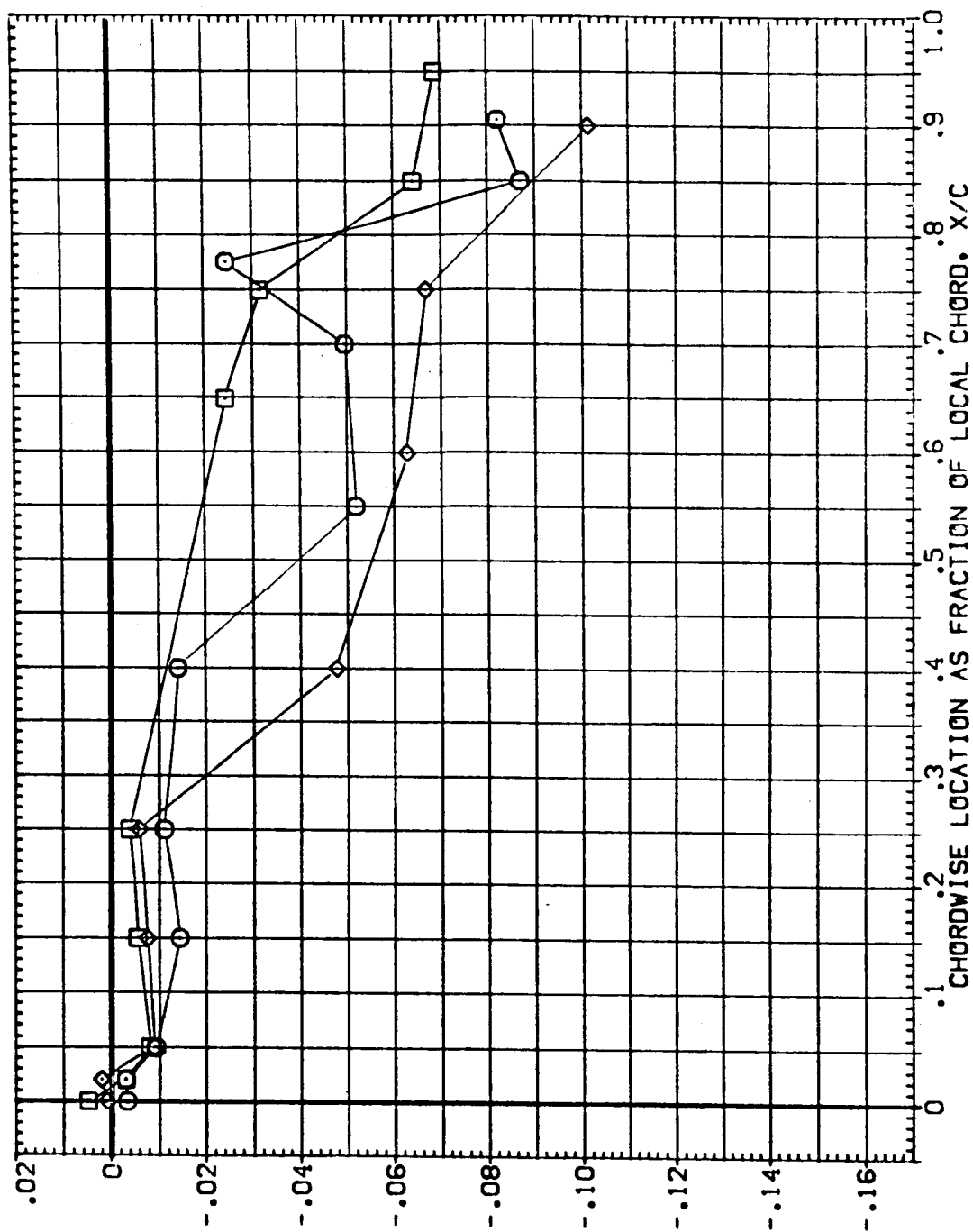


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEUR05)

SYMBOL	21/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
◇	.299	-1.000	.000	RUDER	.000	MACH	.900
□	.364			GIMBAL	1.000		
△	.427						
▽	.534						

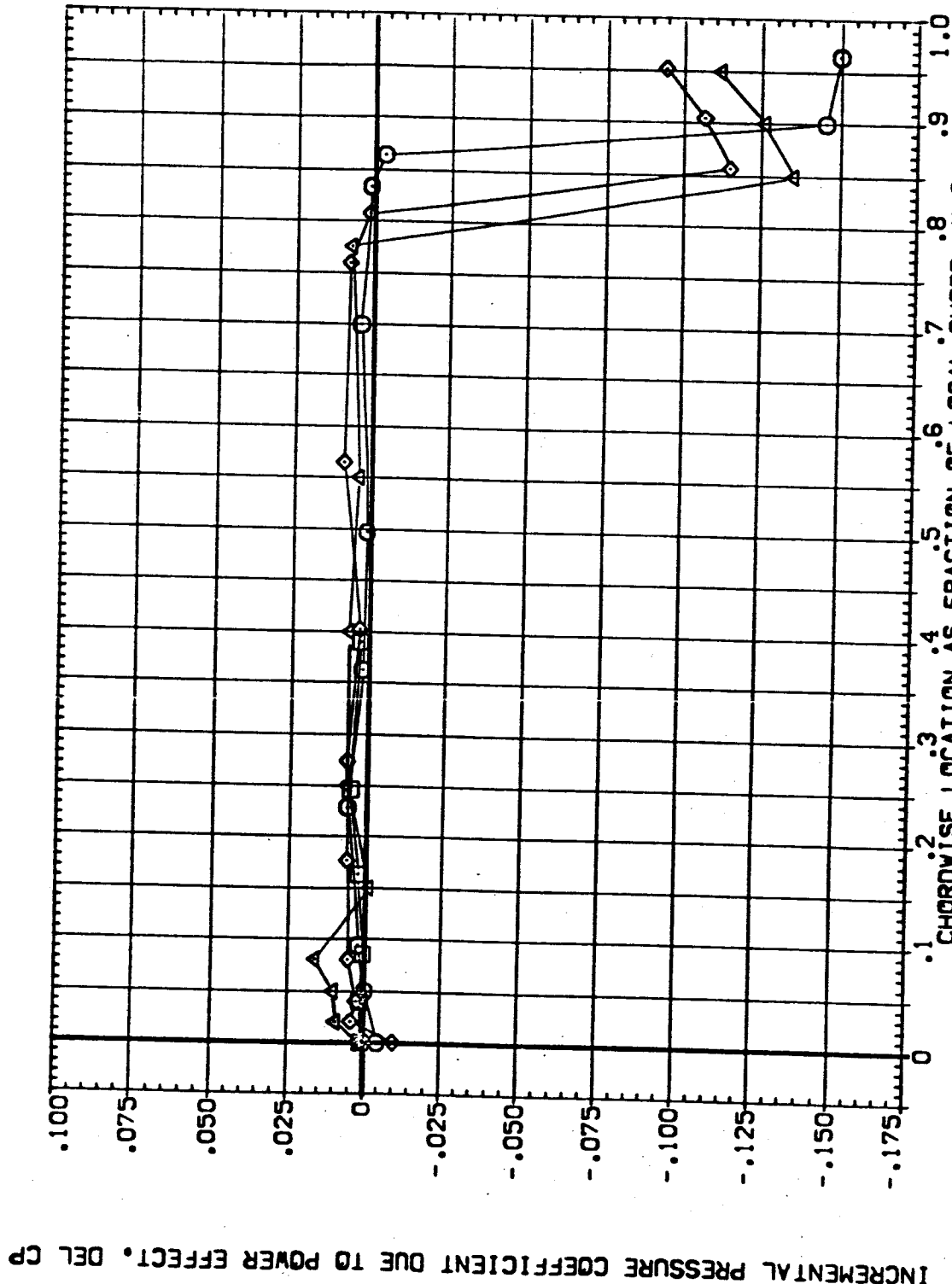


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEURO5)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL 21/8 BETA ALPHA
 .541 -1.000 .000
 .780
 .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

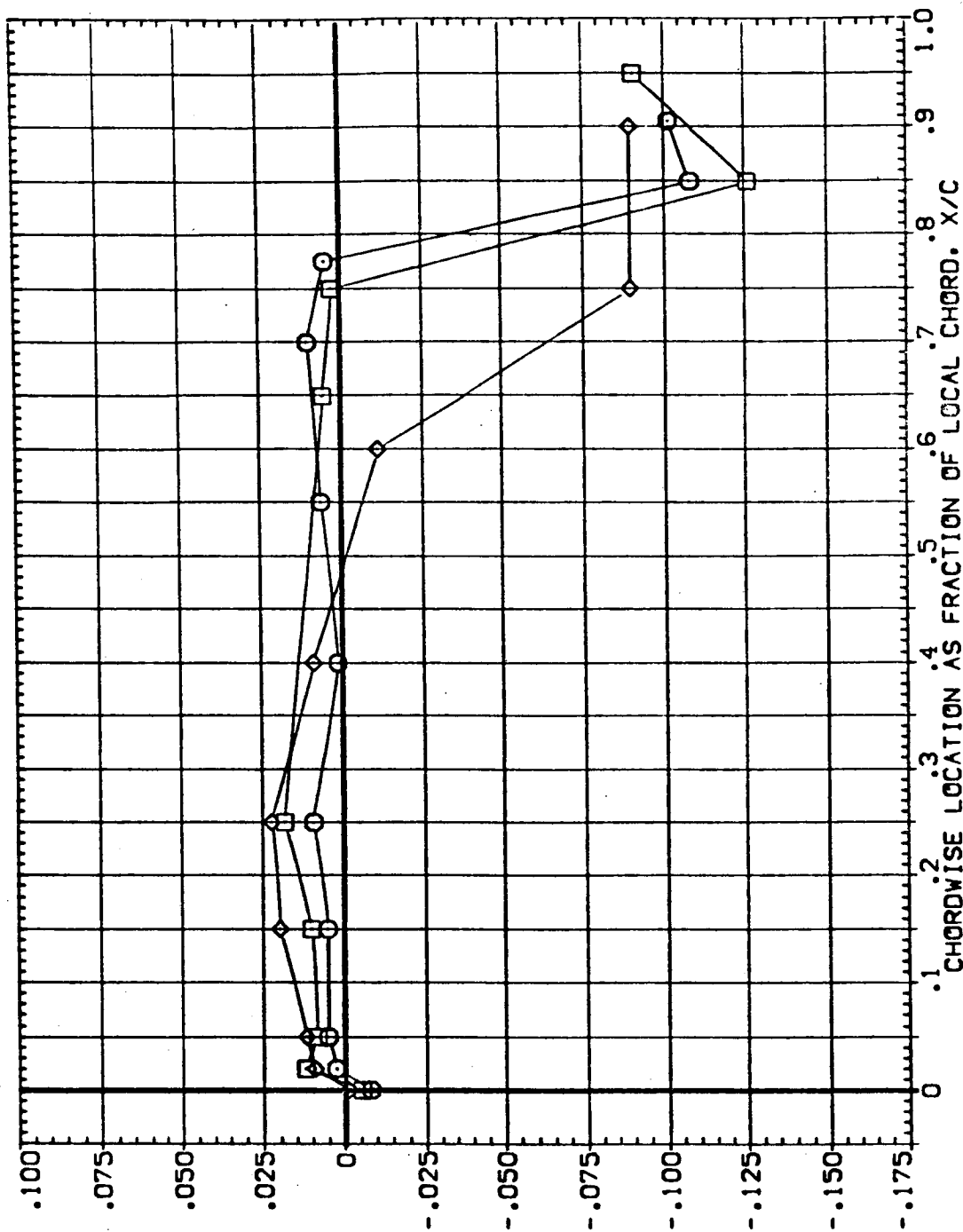


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEUROS)

SYMBOL	27/8	BETA	ALPHA	ELV-18	PARAMETRIC VALUES
○	.299	1.000	.000	RUDDER	8.000 ELV-08
□	.364			GIMBAL	.000 MACH
◇	.427				1.000
△	.534				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

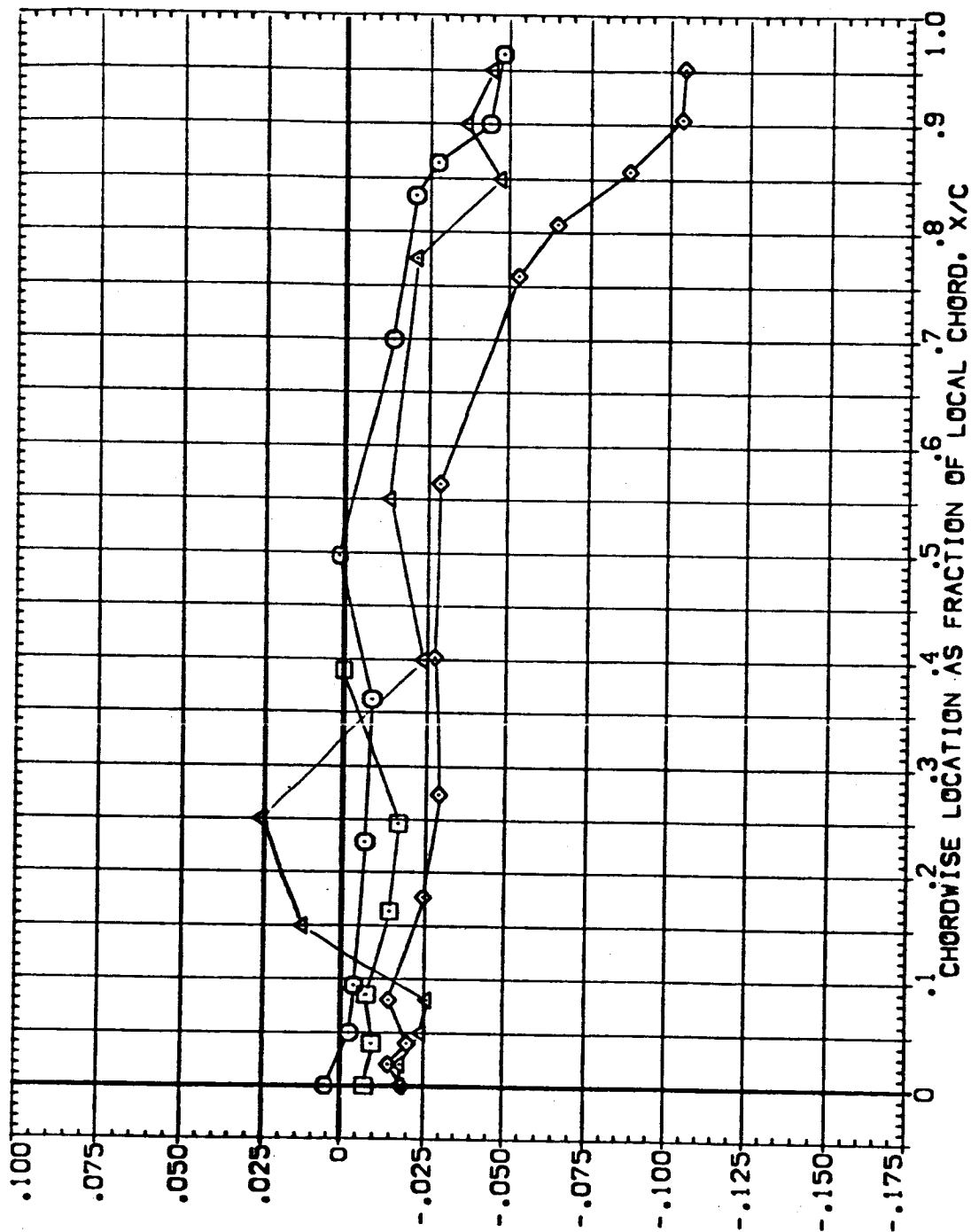


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEUR05)

SYMBOL 21/B BETA ALPHA

□ .641 4.000 .000

◇ .780 .887

PARAMETRIC VALUES

ELV-18 9.000 ELV-08 4.000

RUDER .000 MACH .900

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

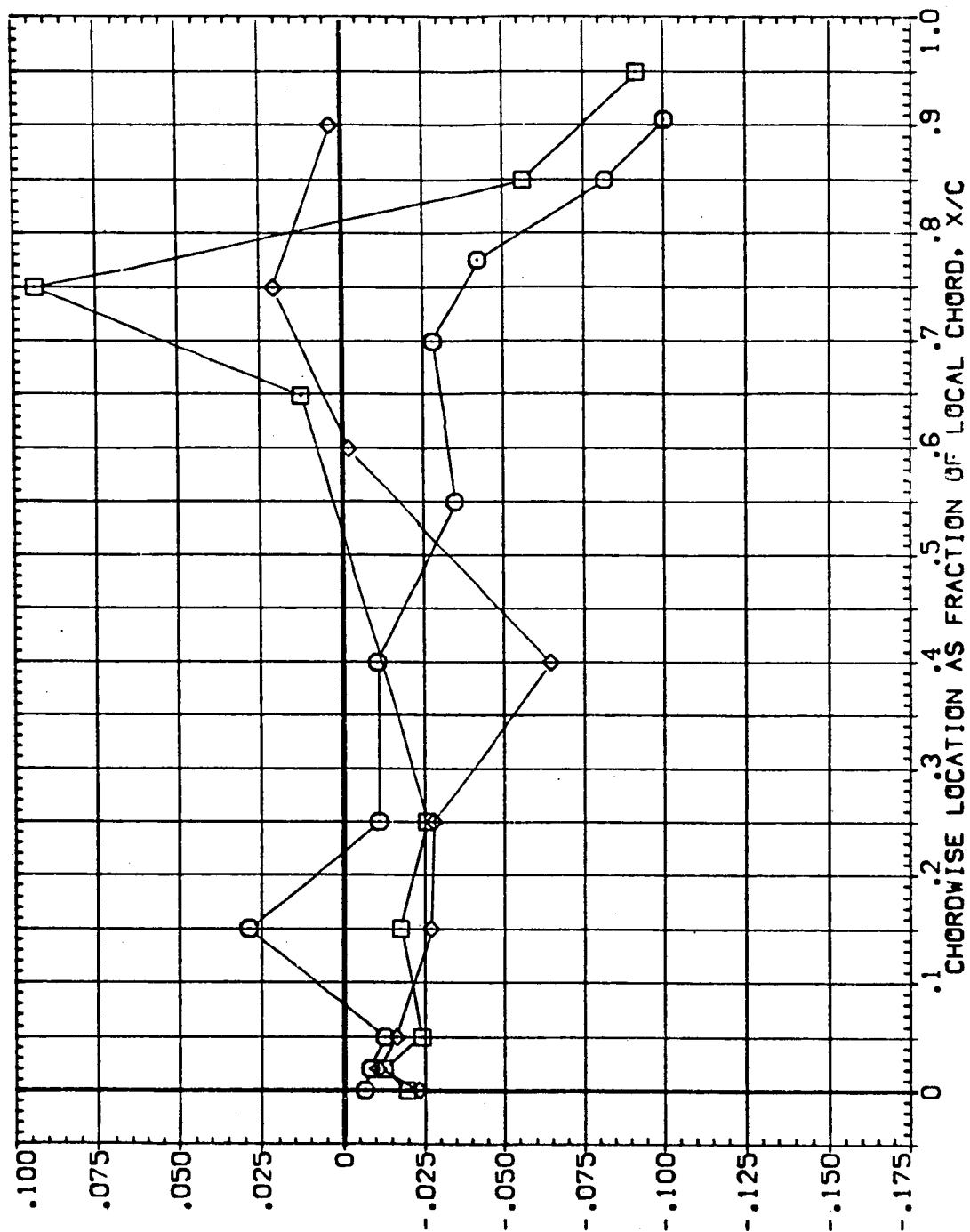


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EEURO6)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-09	MACH	
○	.299	.000	-4.000	8.000	.000	1.000	4.000
□	.364			RUDER			1.100
◇	.427			GIMBAL			
△	.534						

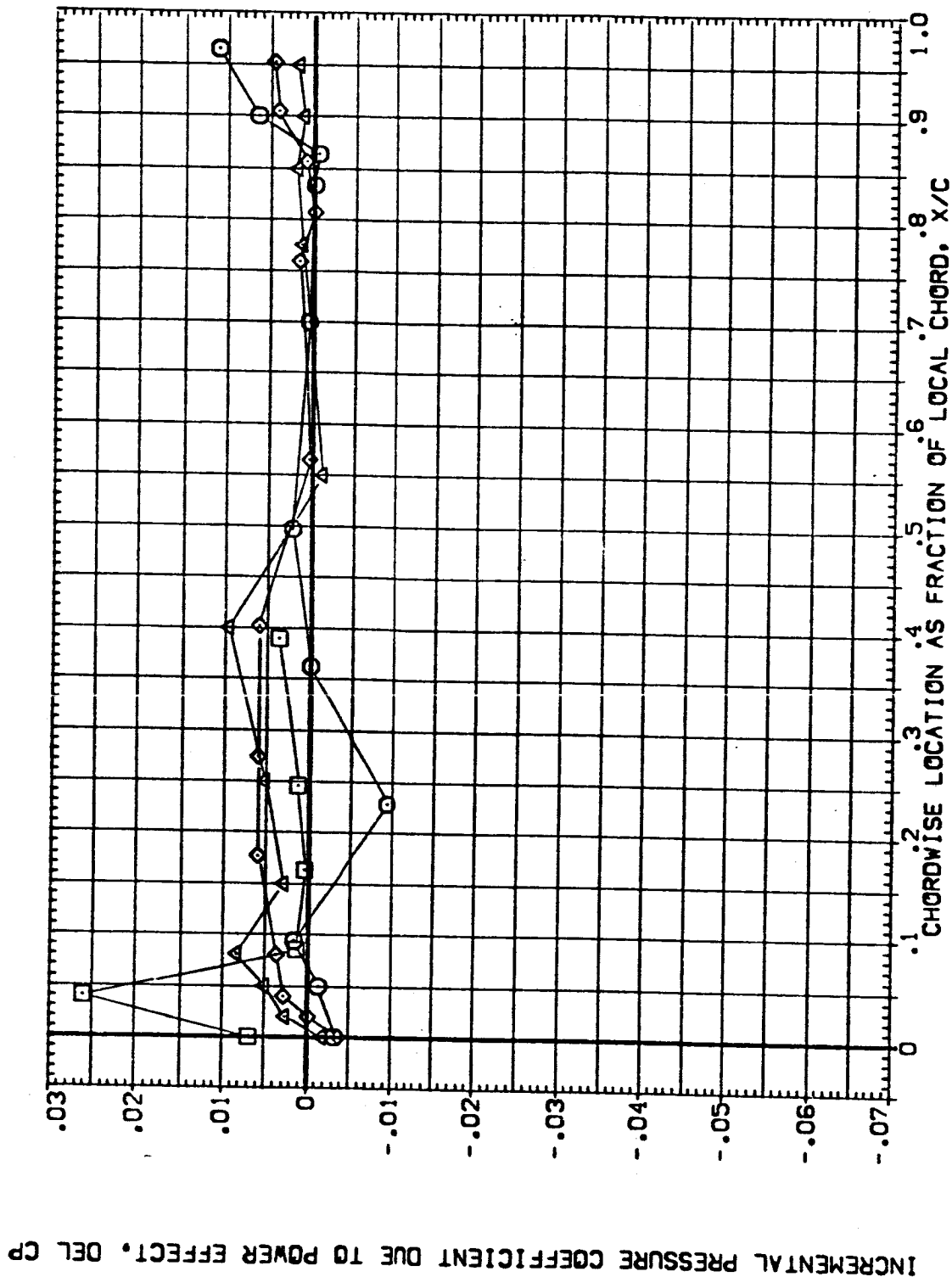


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-1B	ELV-09	4.000	
○	.641	.000	-4.000	8.000	1.000	1.100	
□	.780			RUDDER			
◇	.687			GIMBAL			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

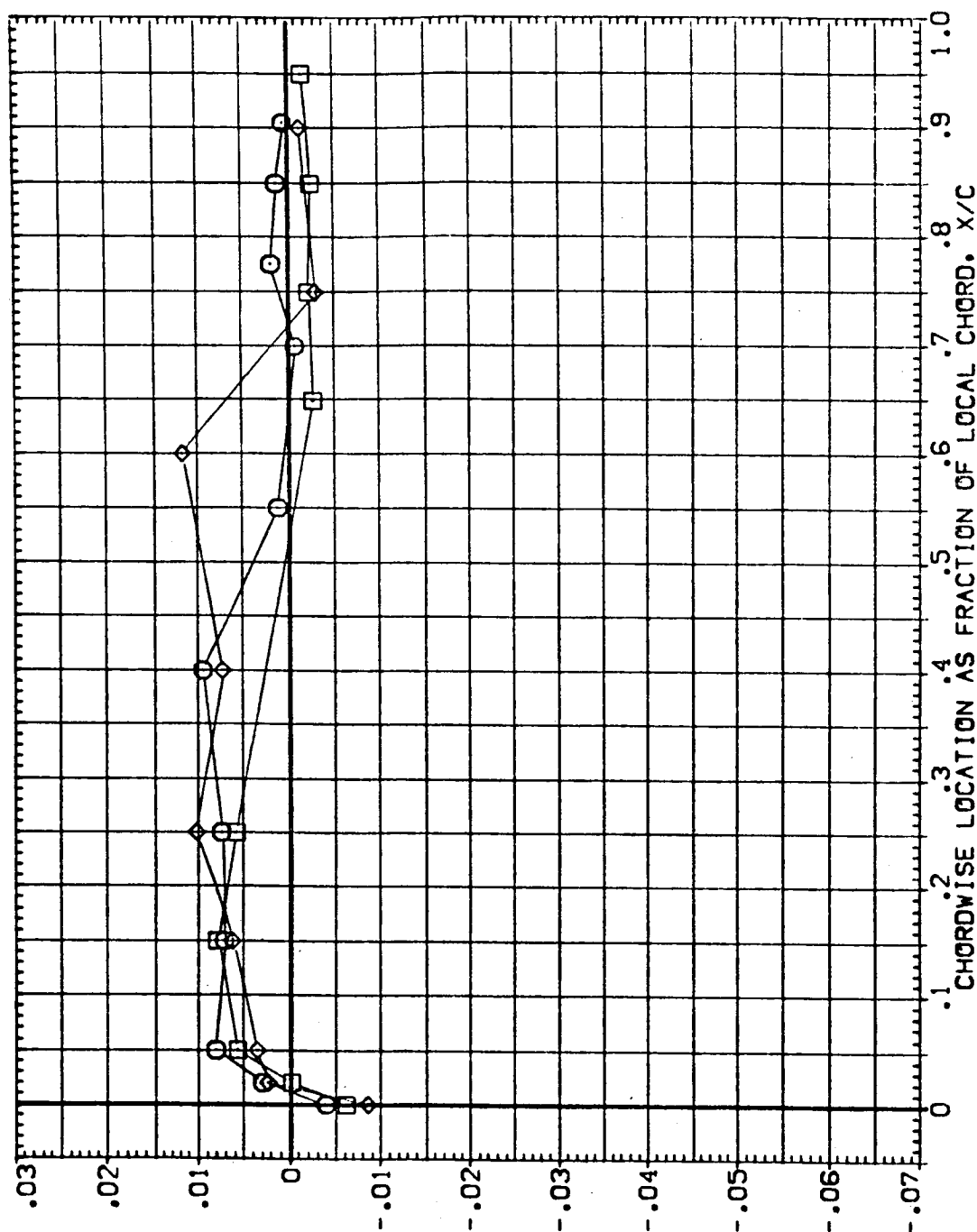


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EEURO6)

SYMBOL Δ \square \diamond \circ

21/18 BETA ALPHA

.299 .000 .000

.364 .000 .000

.427 .000 .000

.531 .000 .000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.100

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

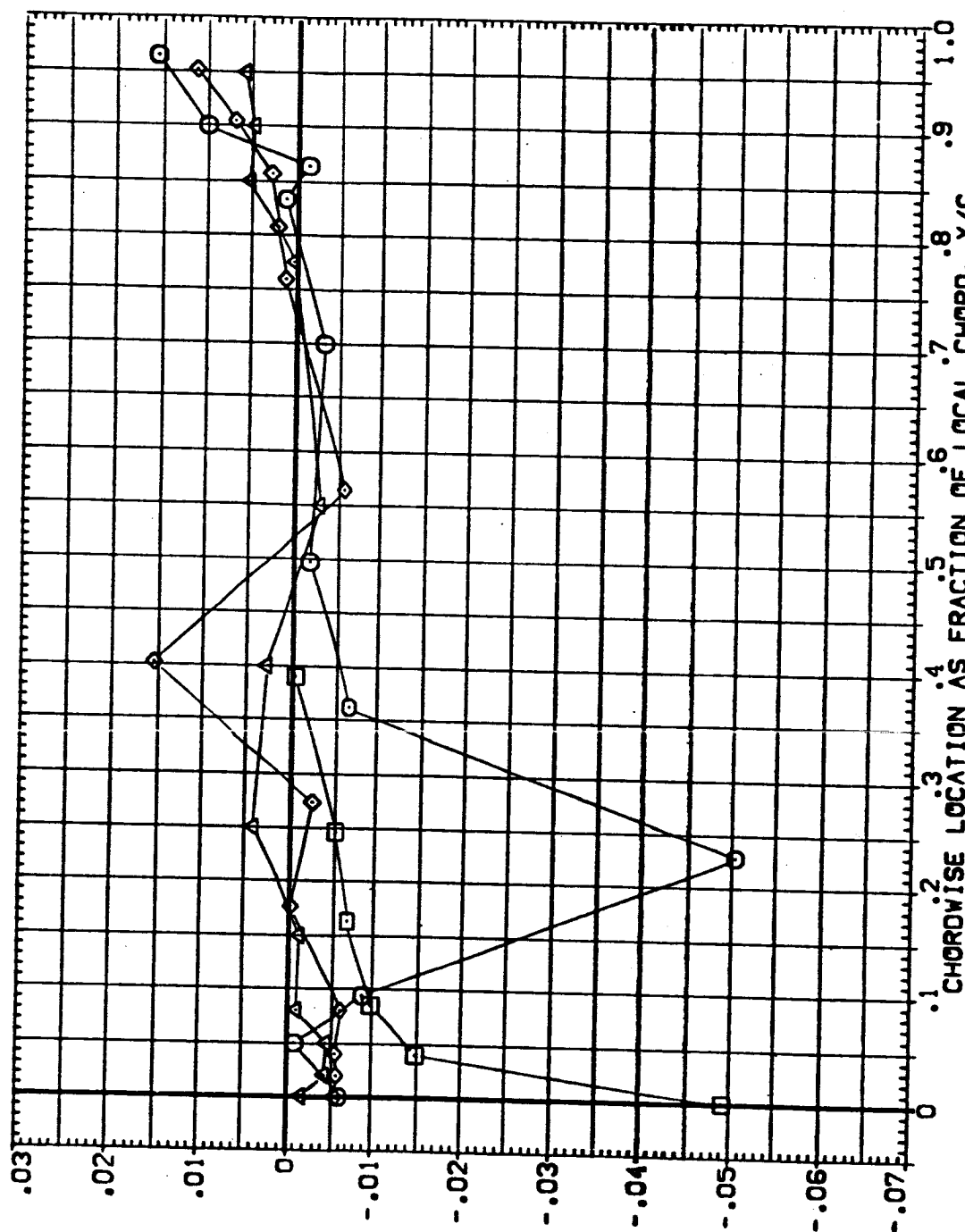


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL	ZV/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
○	.641	.000	.000	ELV-18	8.000	8.000	1.000
□	.780	.000	.000	RUDDER	.000	.000	1.100
◇	.687	.000	.000	GIMBAL	1.000	1.000	1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

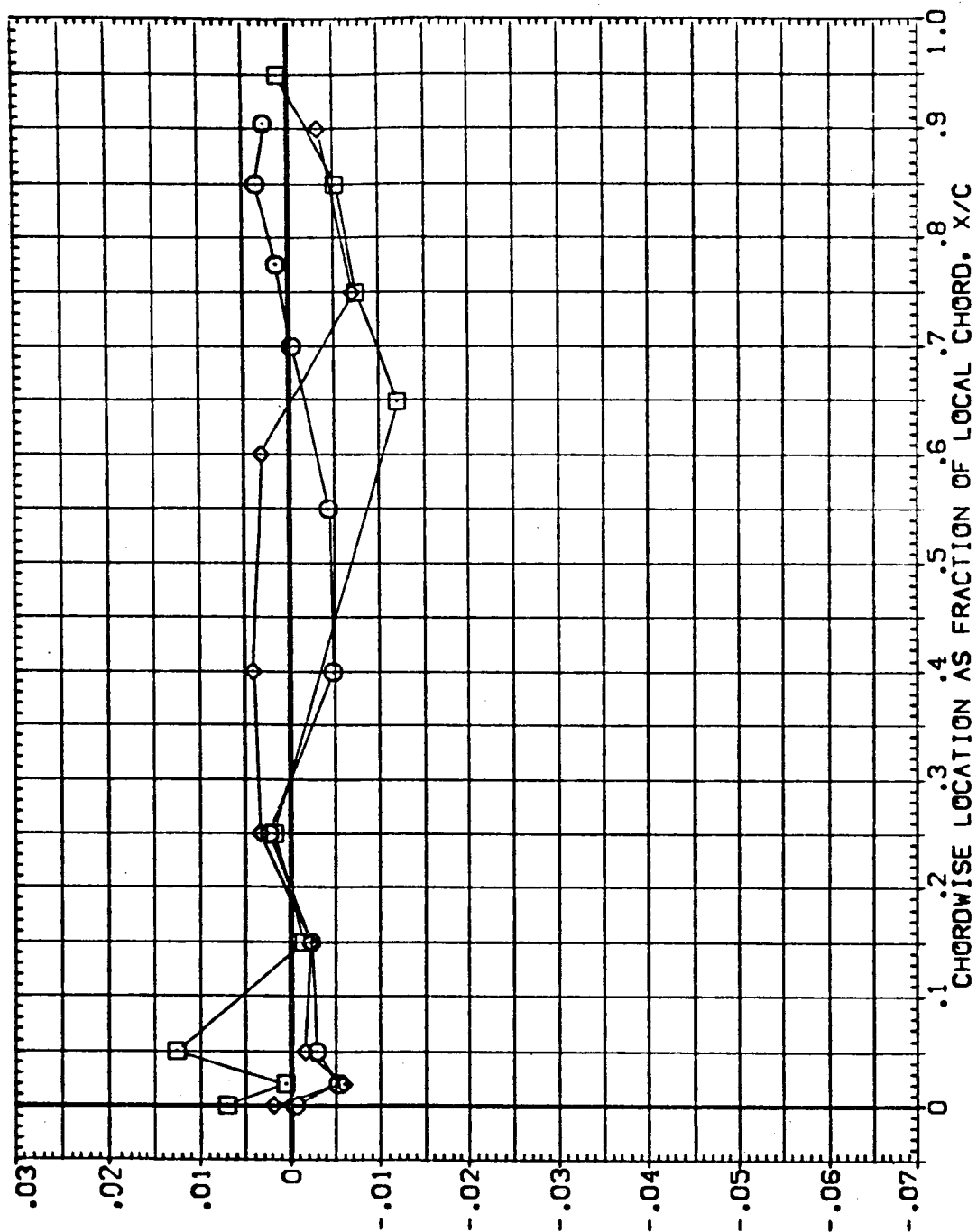


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EEUR06)

SYMBOL	2V/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-1B	ELV-0B	ELV-0B	MACH
○	.299	.000	1.000	ELV-1B	ELV-0B	ELV-0B	MACH
□	.364			RUDER			
◇	.427			GIMBAL			
△	.534						

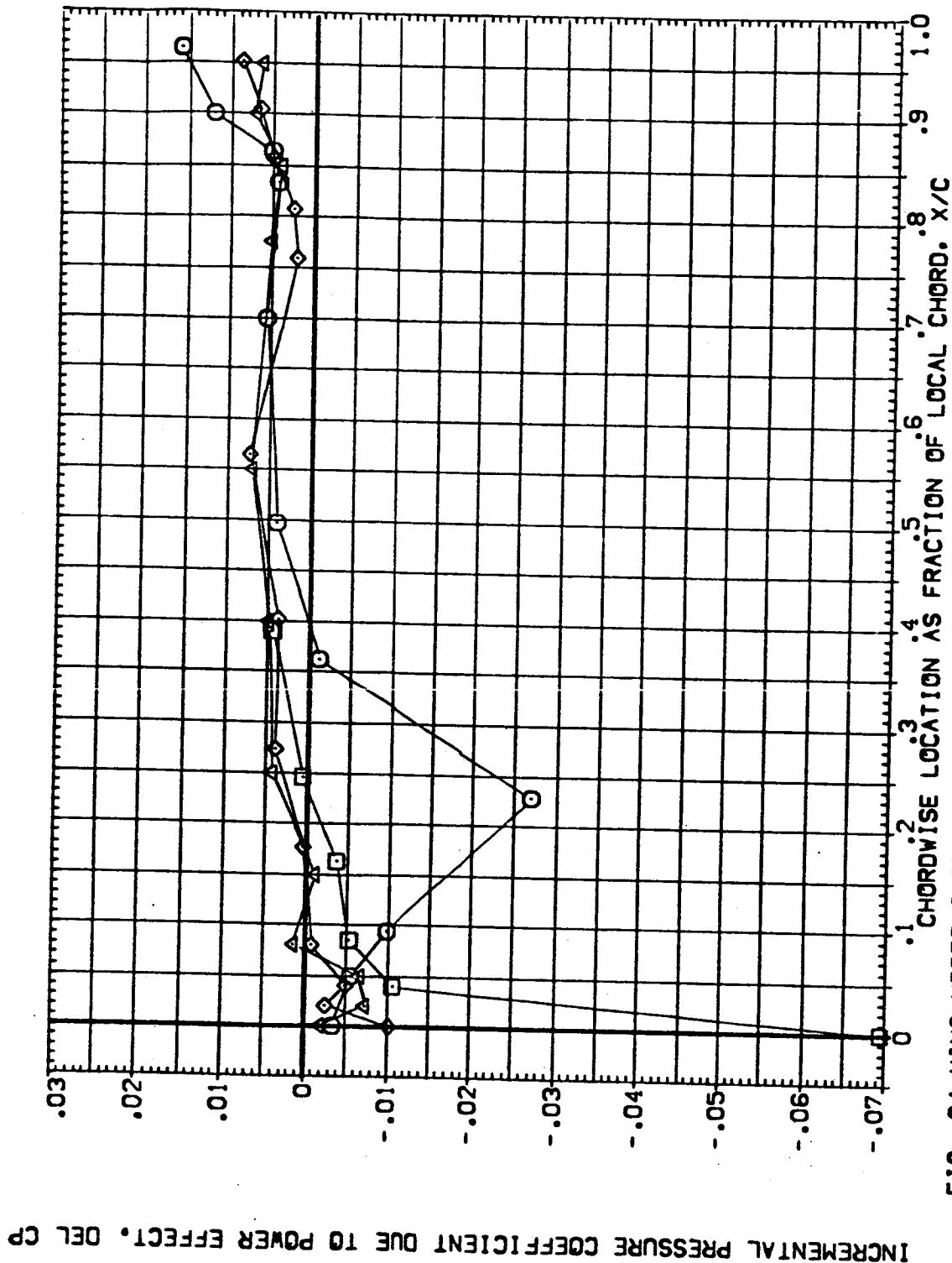


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL	21/8	BETA	ALPHA	PARAMETRIC VALUES			
	.641	.000	4.000	ELV-18	8.000	ELV-08	4.000
	.780			RUDER	.000	MACH	1.100
	.887			GIMBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

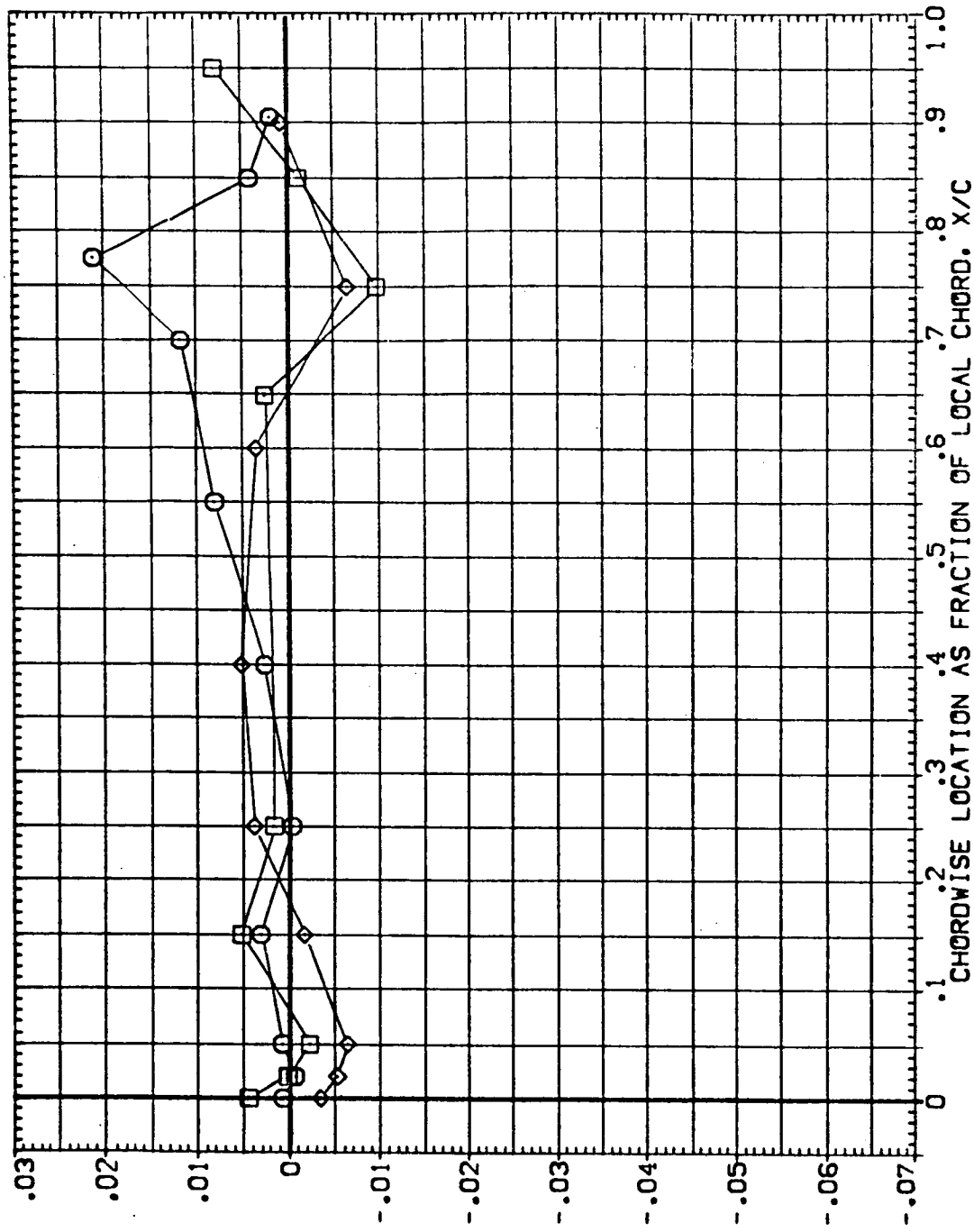


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEUD06)

SYMBOL	Z/Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	1.000
○	.299	-1.000	.000	RUDER	.000	MACH	1.100
□	.364			GIMBAL	1.000		
◇	.427						
△	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

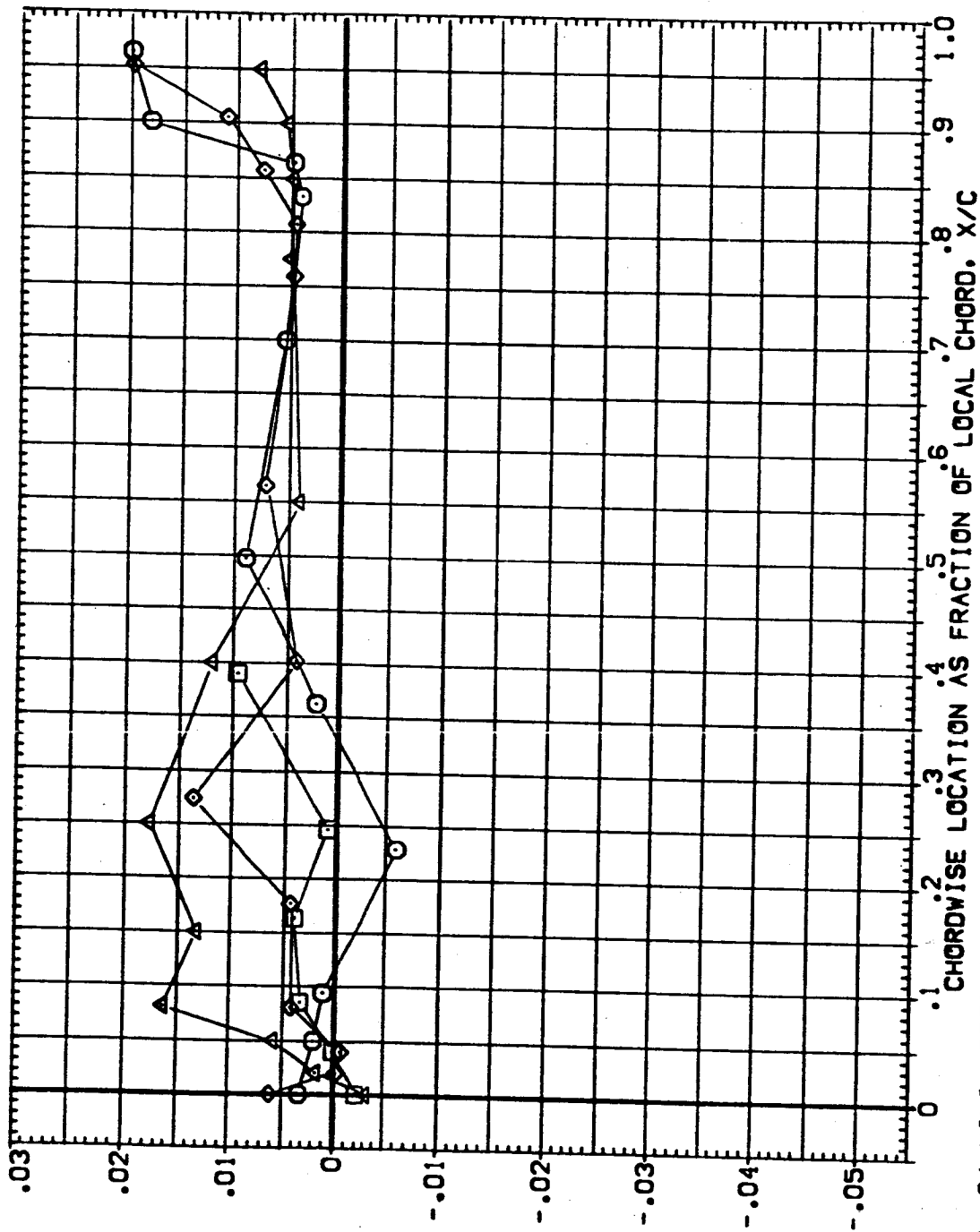


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL	Z ₁ /B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-1B	ELV-08	ELV-09	MACH
○	.641	-4.000	.000	RUDDER	.000	1.000	4.000
□	.780			GIMBAL	1.000		1.100
◇	.687						

INCREASING DEGREE OF SUPERSONIC AND SUBSONIC FLOW WING (FEUKUB)

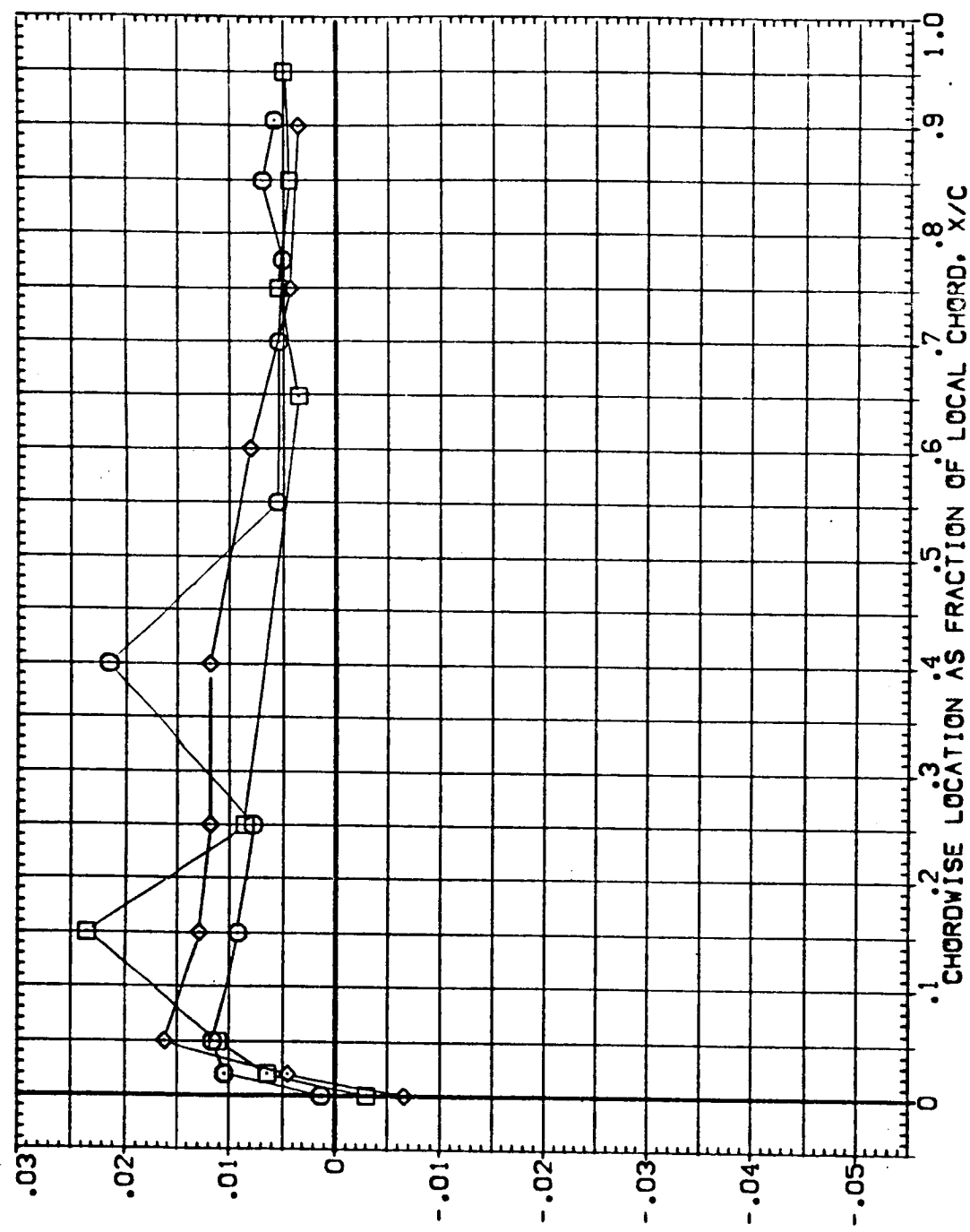


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEURO6)

SYMBOL	Z ₁ /B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
◇	.299	1.000	.000	8.000	8.000	1.000	4.000
□	.384			.000	.000		1.100
△	.427						
○	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

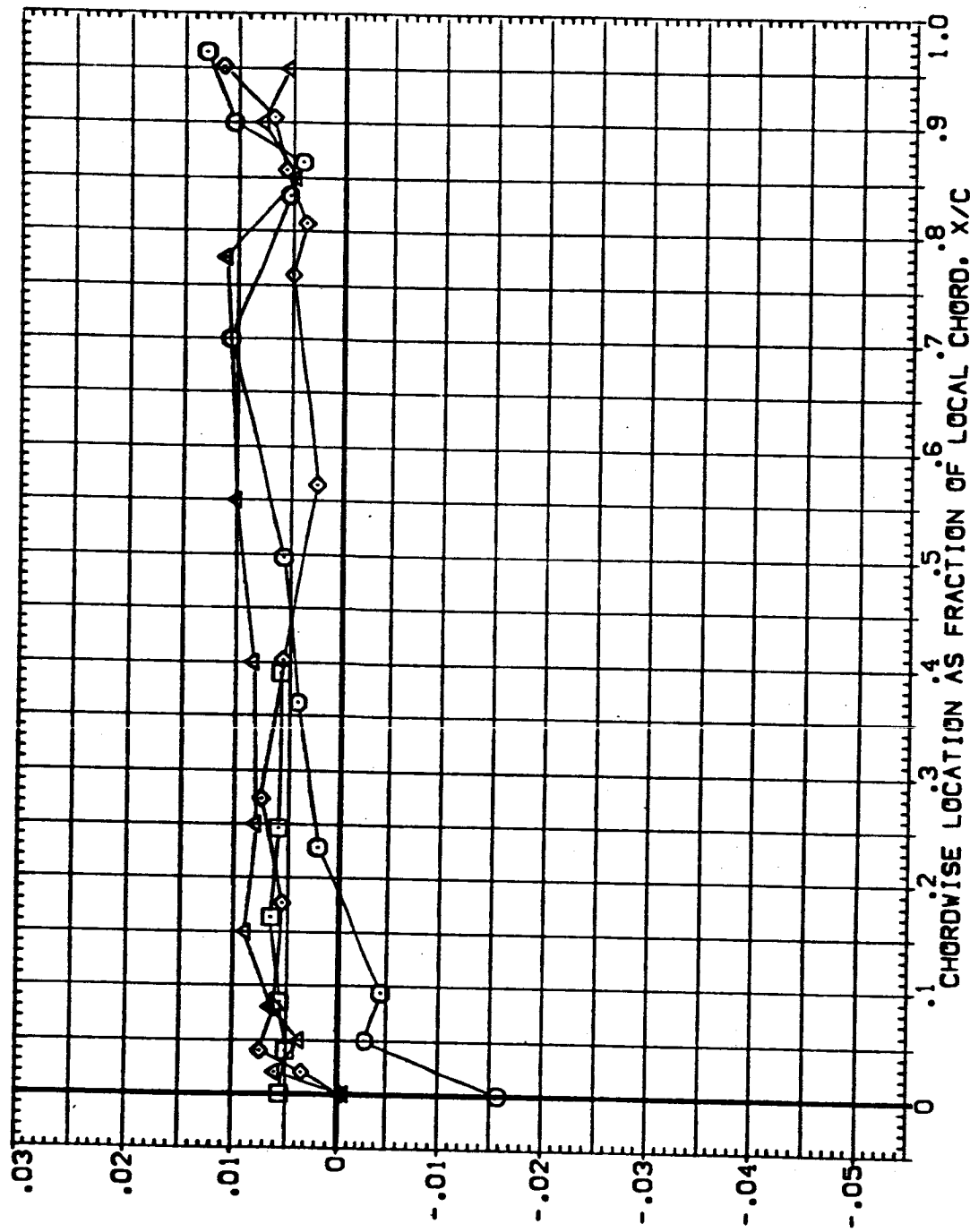


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 .641 4.000 .000
 .780
 .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

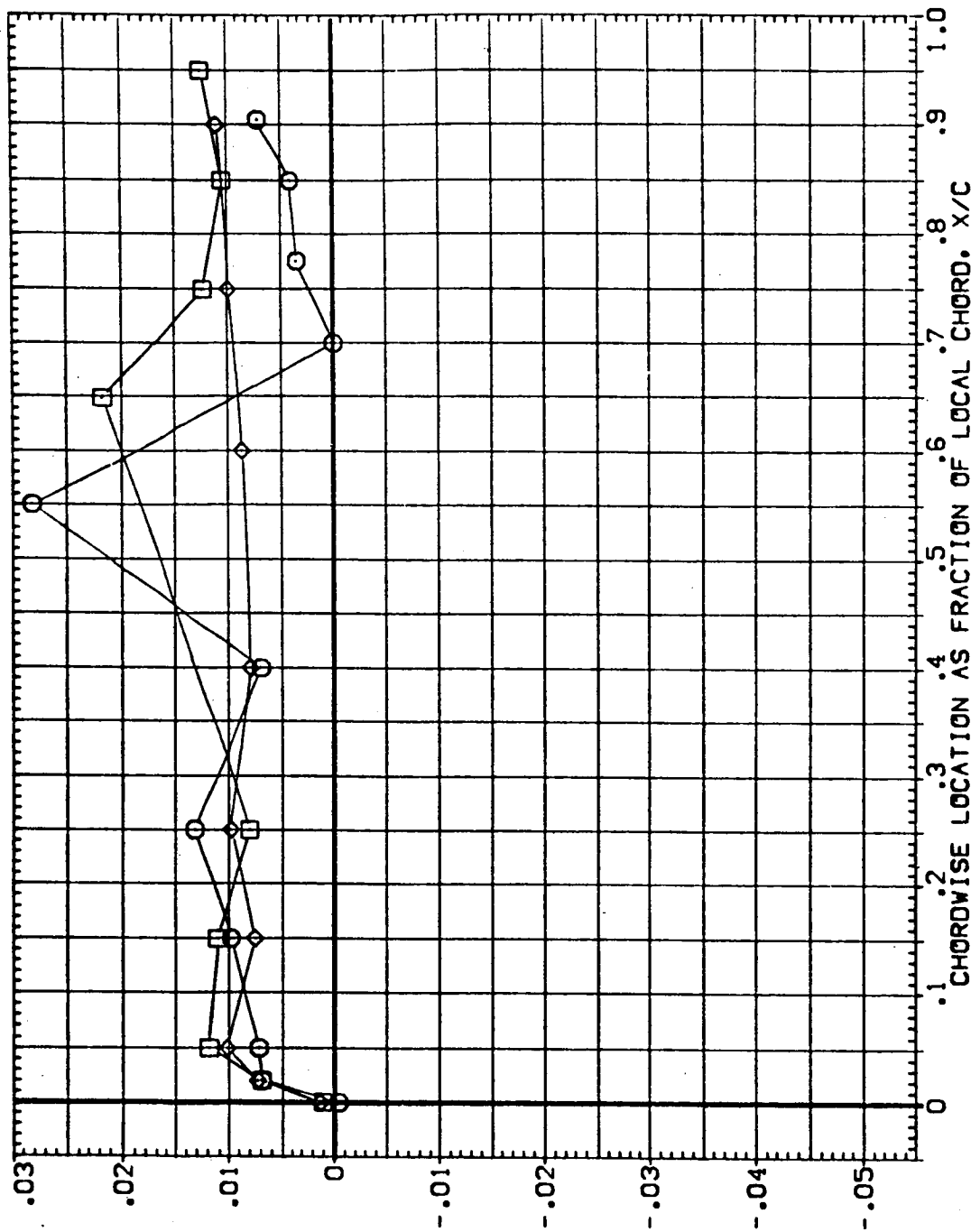


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EURO7)

SYMBOL	2V/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
◇	.299	.000	-4.000	RUDER	.000	1.000	1.250
□	.364			GIMBAL			
○	.127						
△	.534						

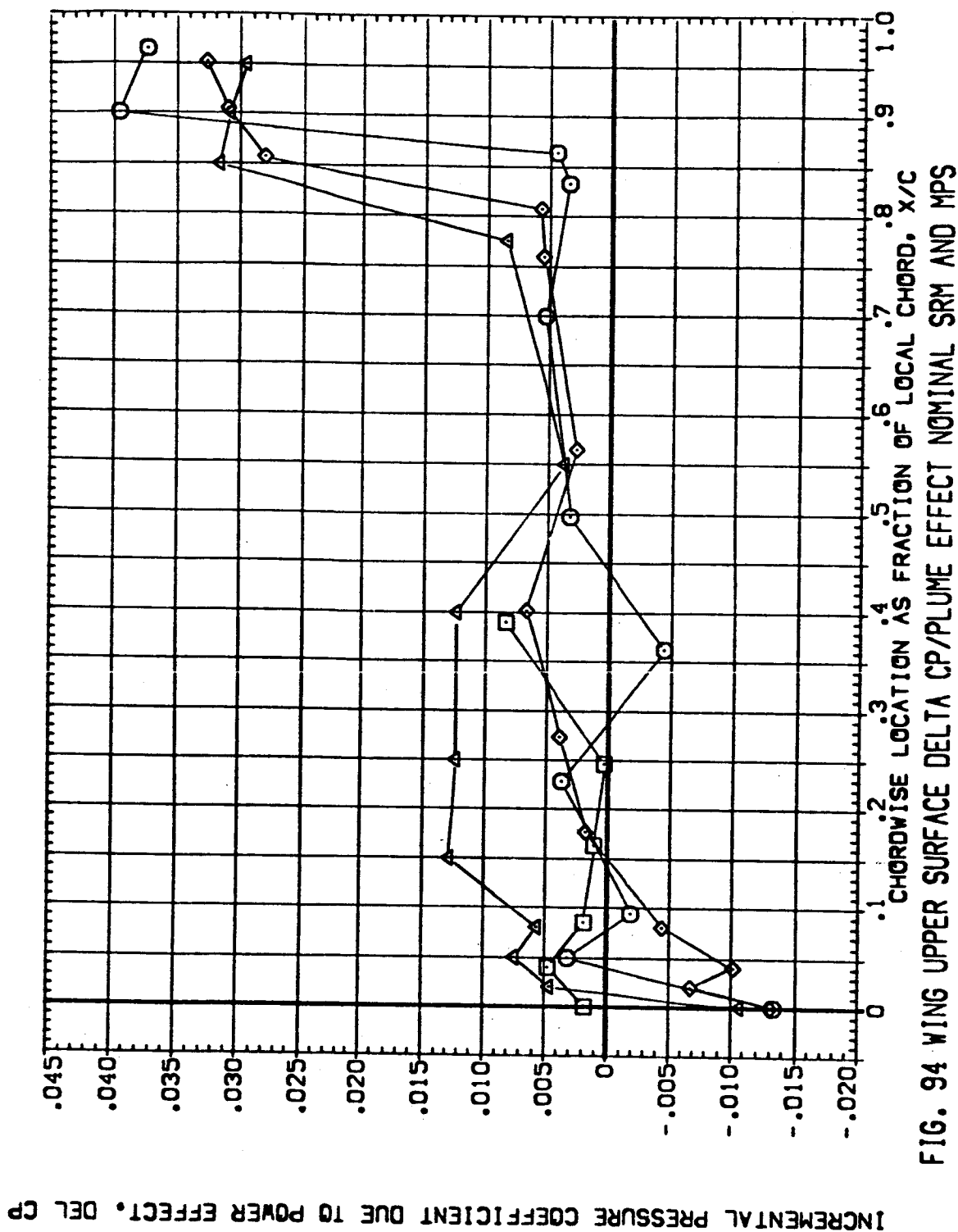


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL 2Y/B BETA - ALPHA

○ .641 .000 -1.000

□ .780 .000 -1.000

◇ .887 .000 -1.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDDER .000 MACH 1.250

SIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

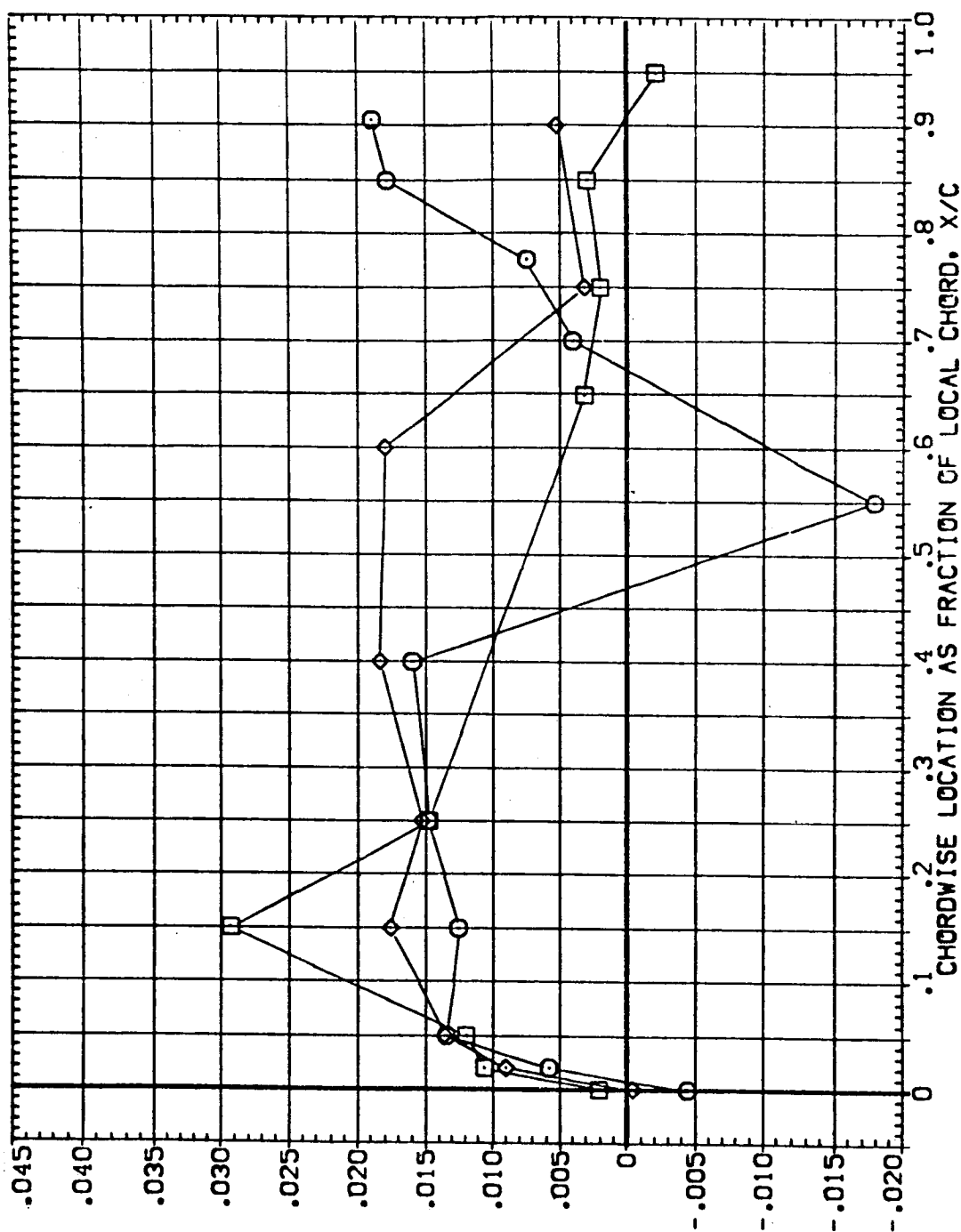


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SR3-NOM MPS-NOM TOP WING(EEUR07)

SYMBOL	21/18	BETA	ALPHA	ELV-18	ELV-08	PARAMETRIC VALUES
○	.239	.000	.000	RUDDER	.000	MACH
□	.364	.000	.000	GIMBAL	1.000	
◇	.427					
△	.534					

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

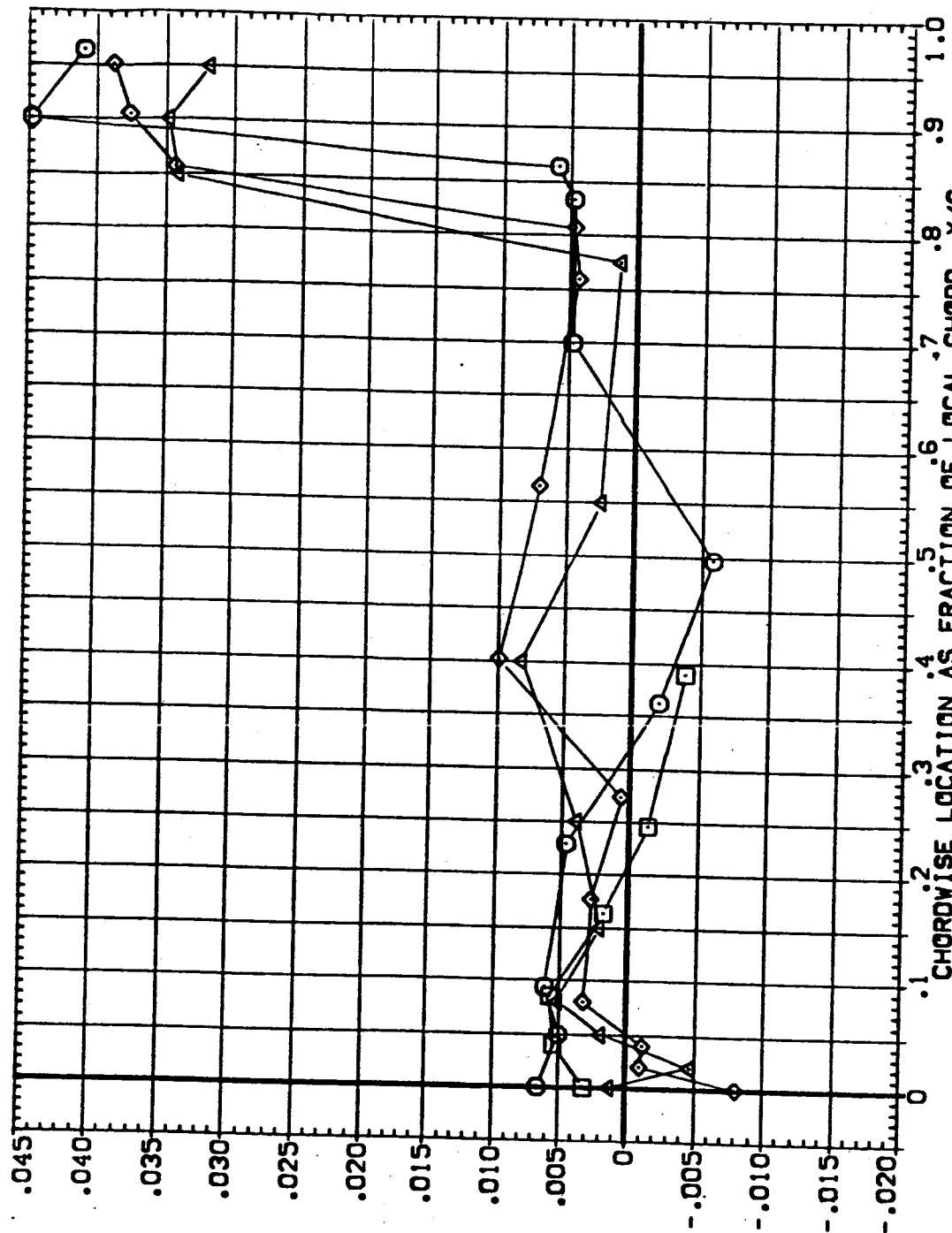


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL	2V/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	4.000
○	.641	.000	.000	RUDER	.000	MACH	1.250
□	.780			GIMBAL	1.000		
◇	.887						

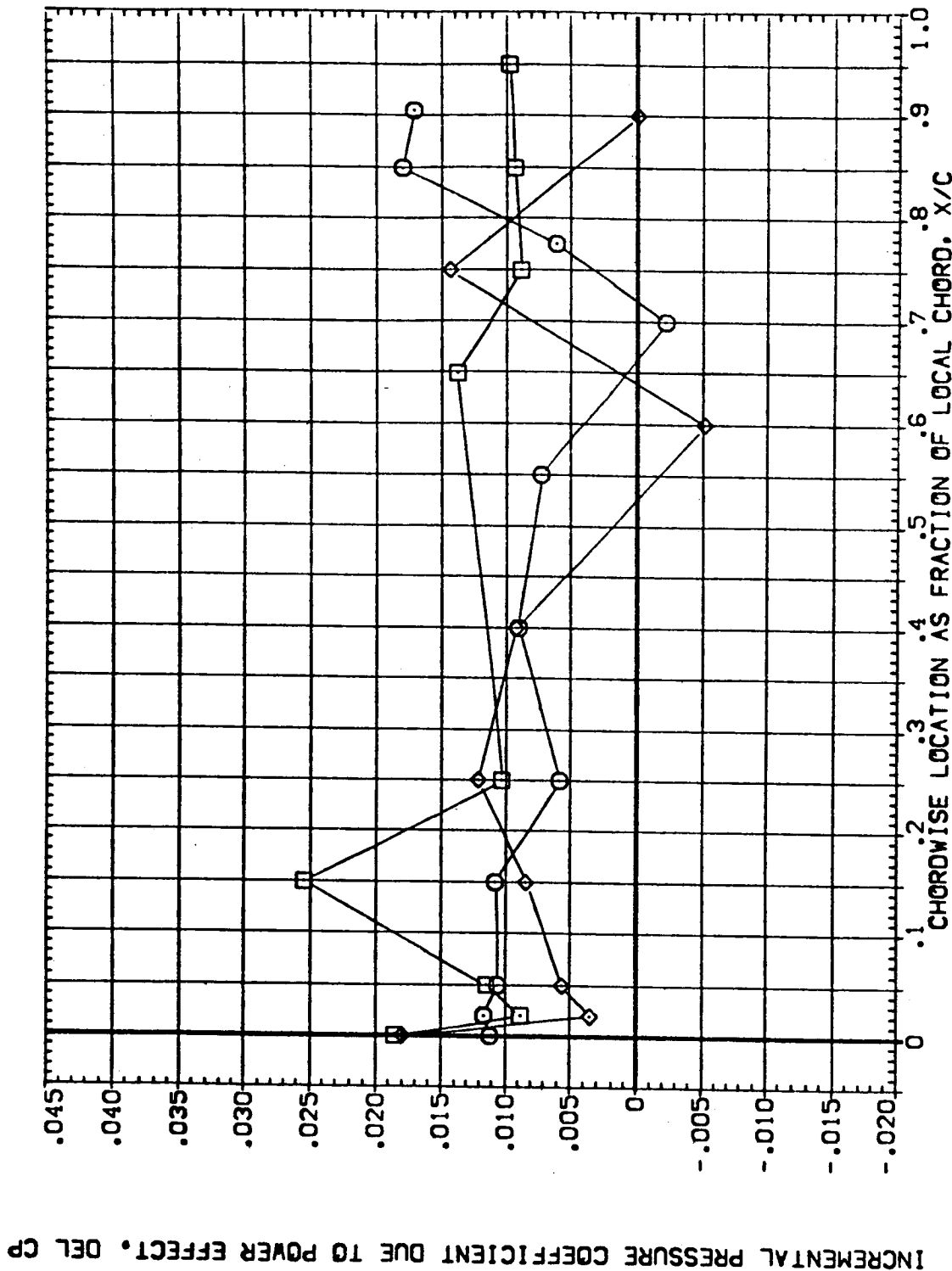


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EURO7)

SYMBOL 21/8 BETA ALPHA

□ .259 .000 4.000

◇ .364 .000 4.000

△ .427 .000 4.000

▽ .534 .000 4.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.250

GIMBAL 1.000

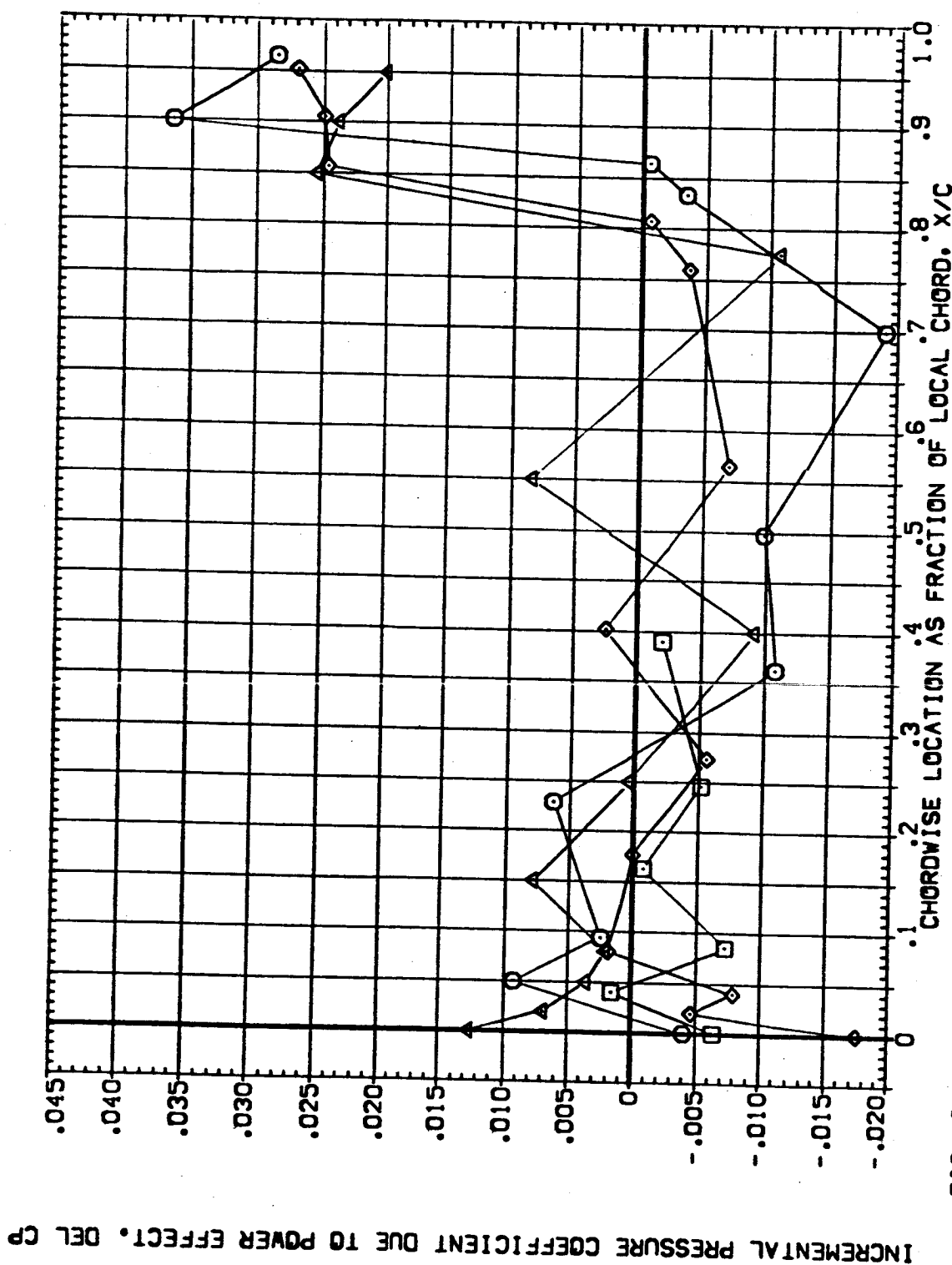


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL 27/8 BETA ALPHA
 □ .641 .000 4.000
 ◇ .780 .000 4.000
 ◇ .887 .000 4.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

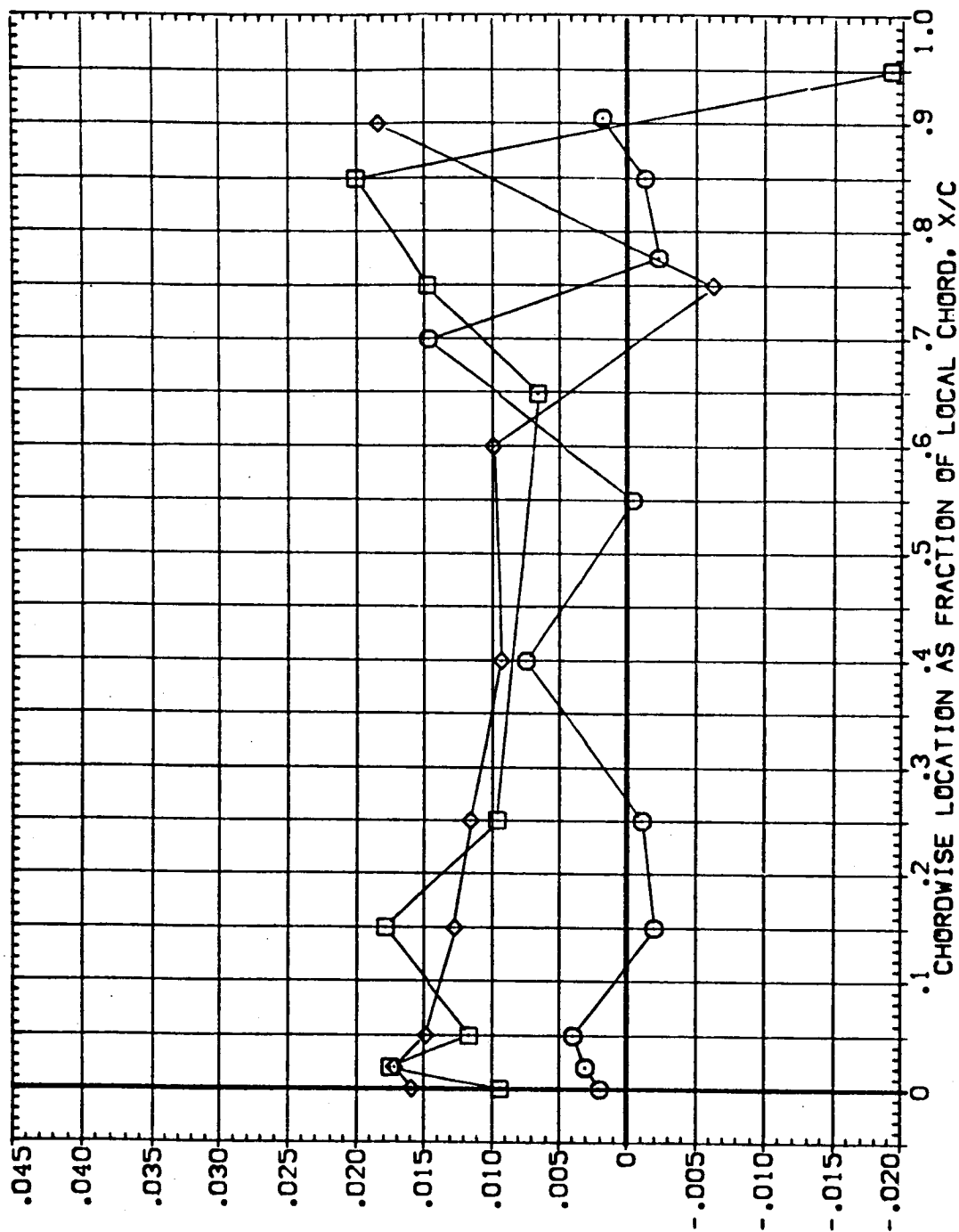


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEUR07)

SYMBOL	Z1/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
○	.259	-1.000	.000	.000	.000	1.000	1.000
□	.364			.000	.000	1.000	1.250
◇	.427						
△	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

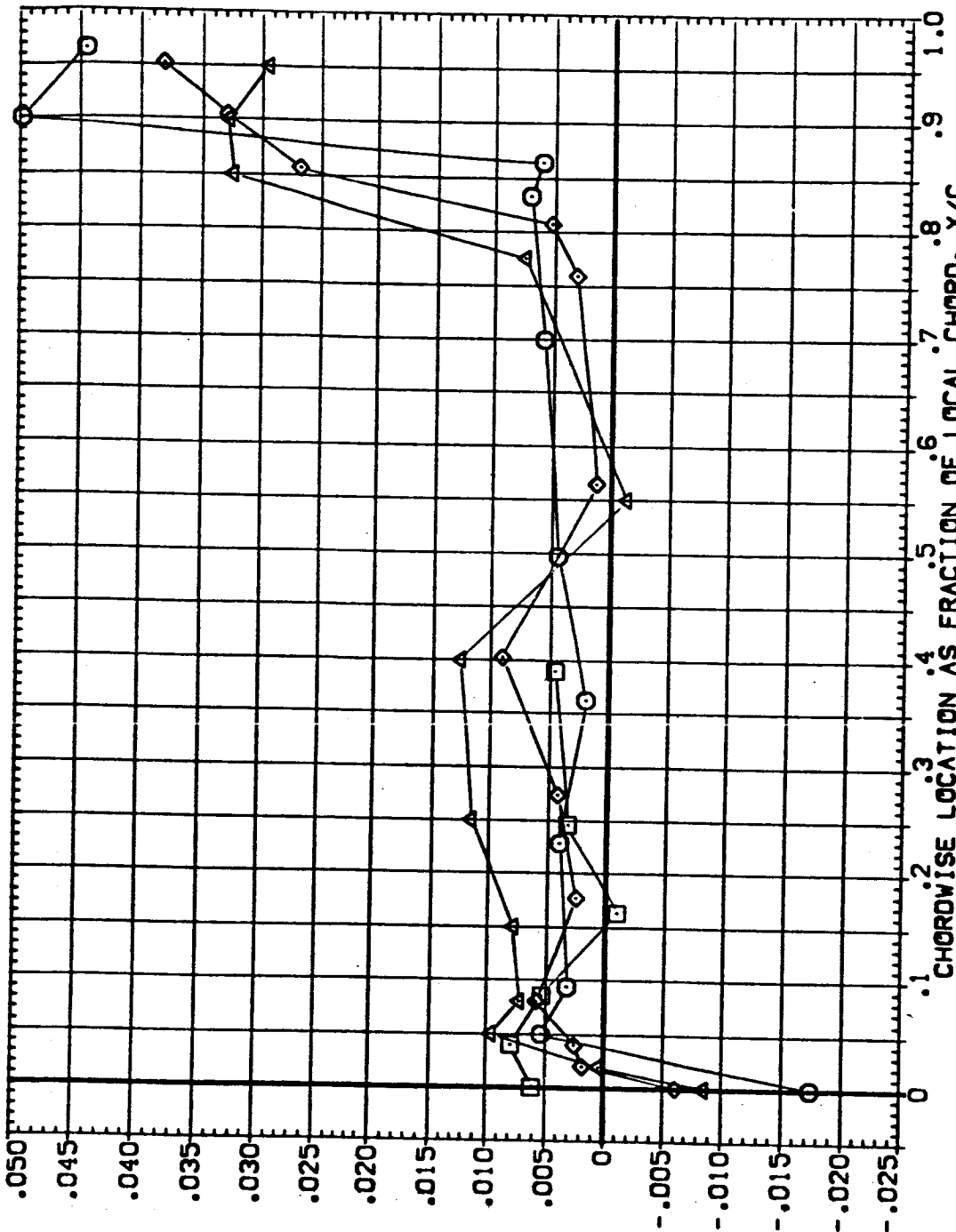


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL	21/8	BETA	ALPHA	PARAMETRIC VALUES
○	.641	-4.000	.000	ELV-18
□	.780			ELV-08
◇	.887			RUDER
				GIMBAL
				1.000
				1.250
				4.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

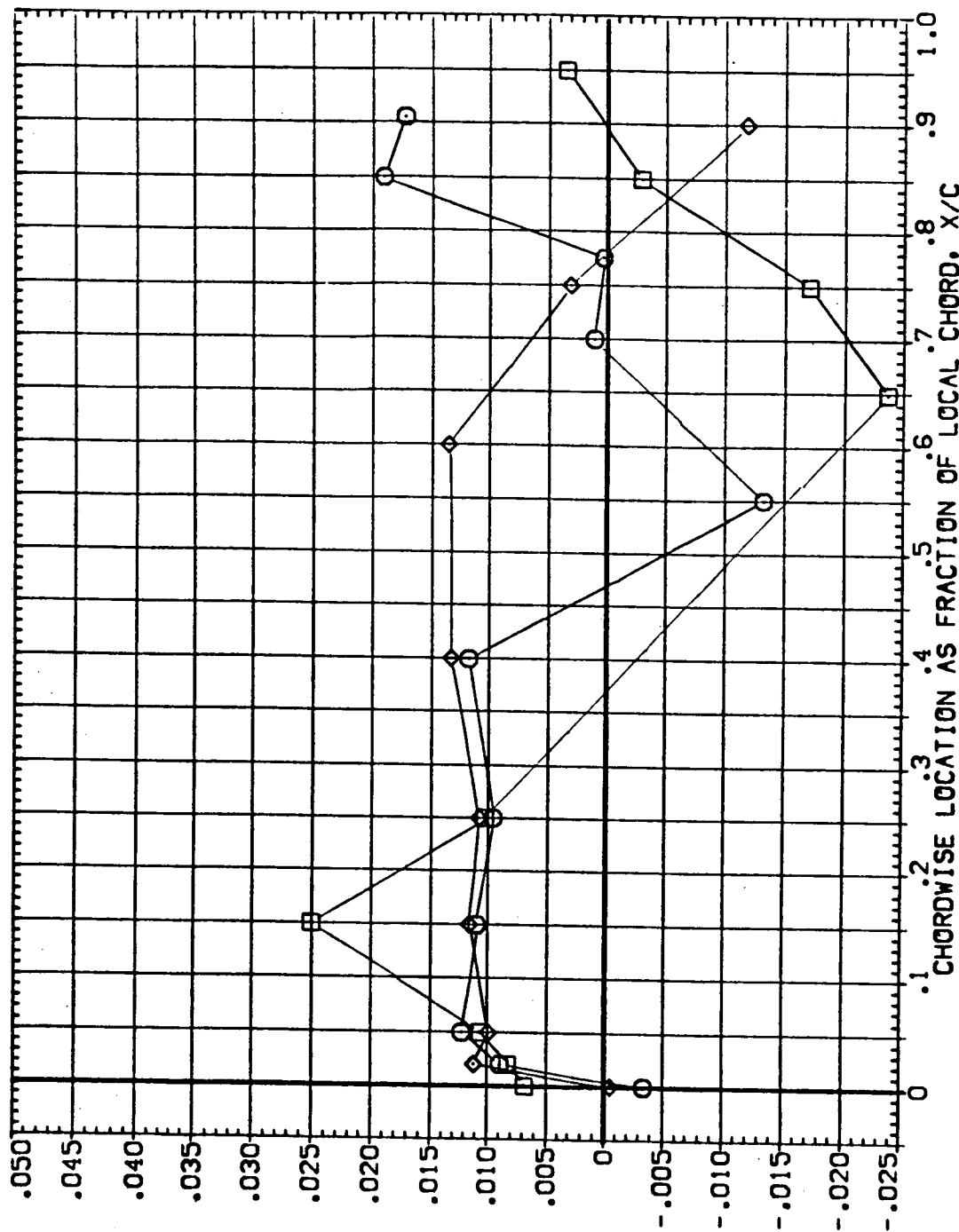


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEUR07)

SYMBOL	2V/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-00	MACH
○	.259	4.000	.000	ELV-18	ELV-08	ELV-00	MACH
□	.364			RUDER			
◇	.427			GIMBAL			
△	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

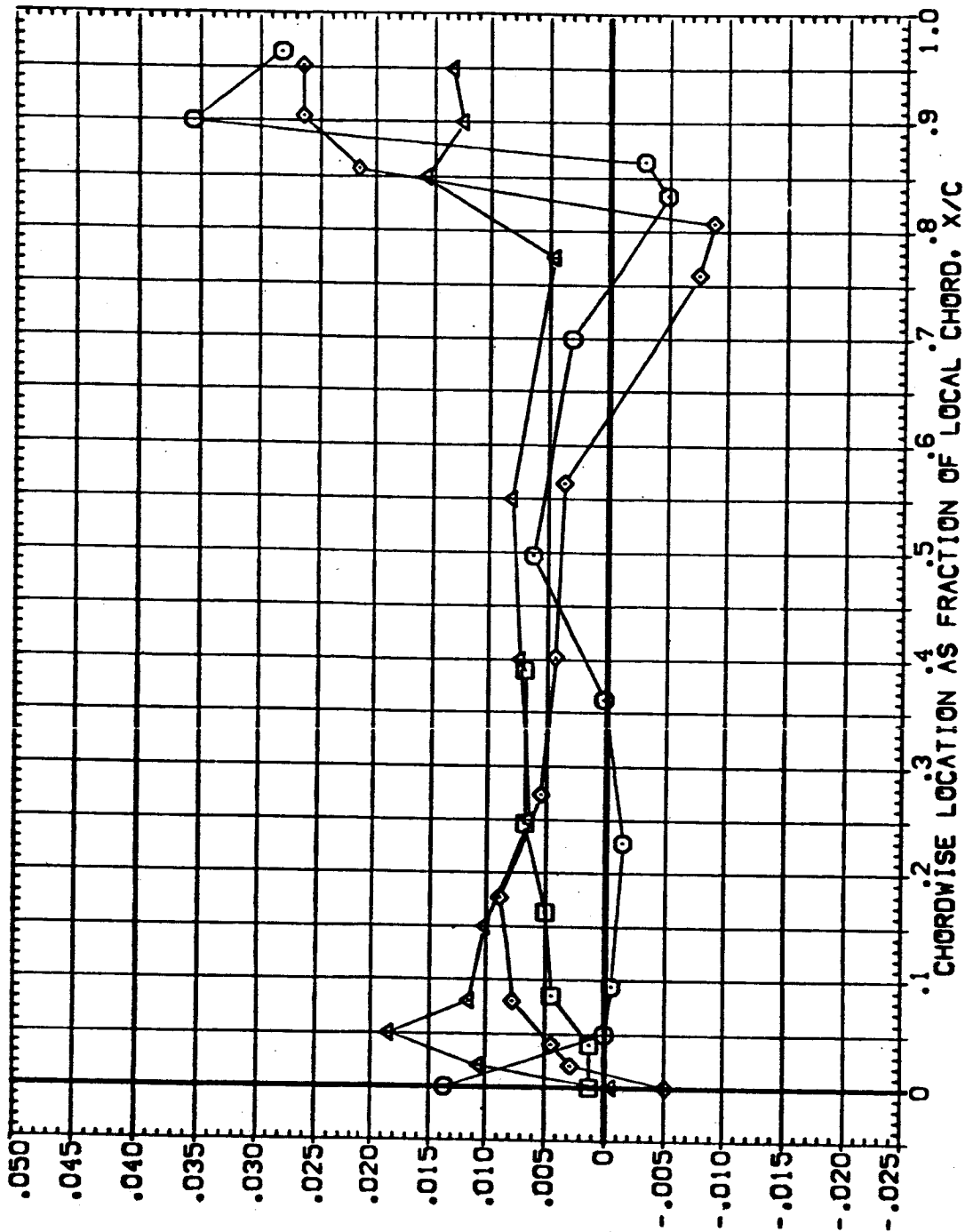


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

PARAMETRIC VALUES
 ELV-18 9.000 ELV-09 1.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ○ .641 1.000 .000
 □ .780
 ◇ .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

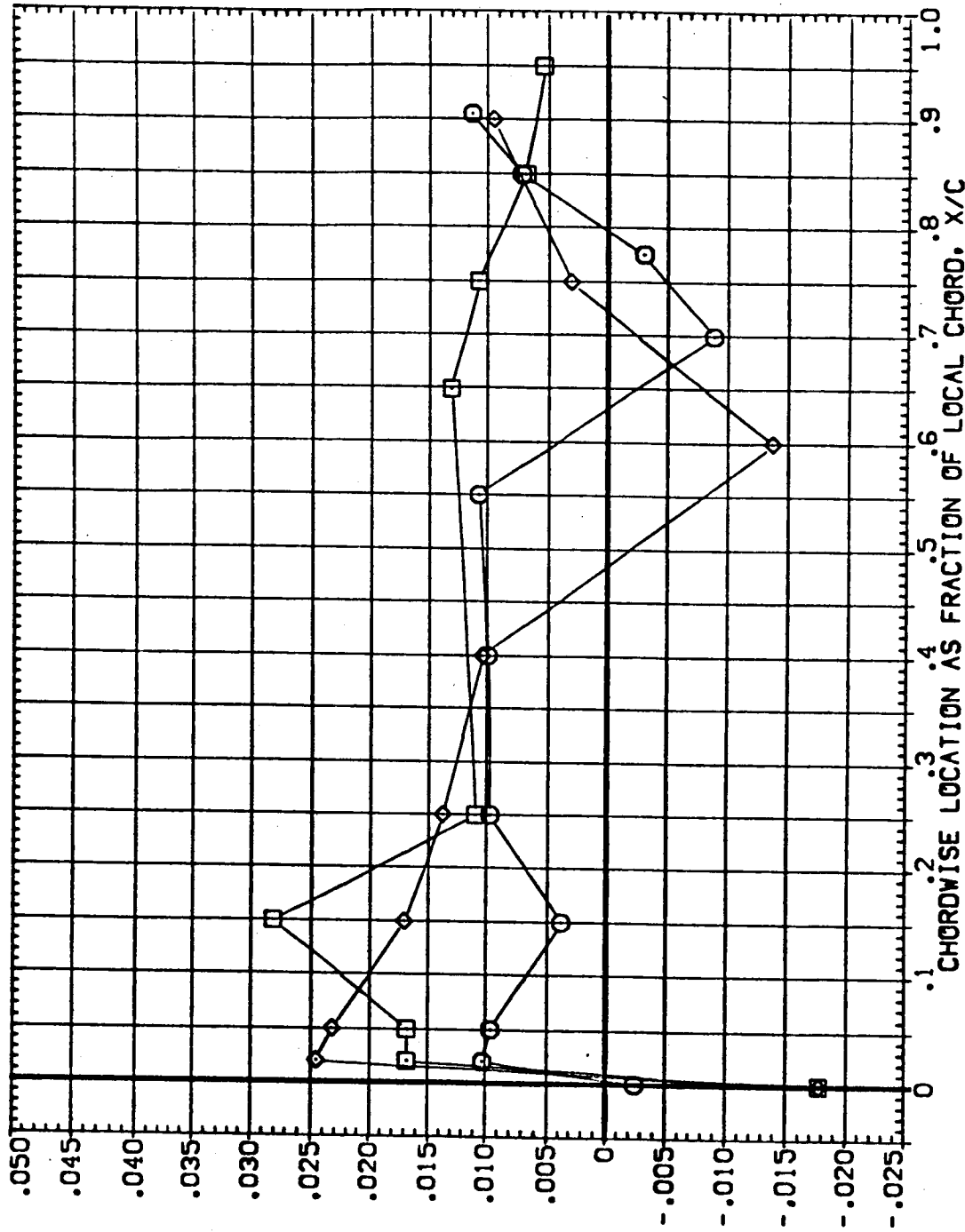


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EEUR08)

SYMBOL	2N/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.299	.000	-1.000	RUDER	.000	MACH	1.400
□	.364			GIMBAL	1.000		
◇	.427						
△	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

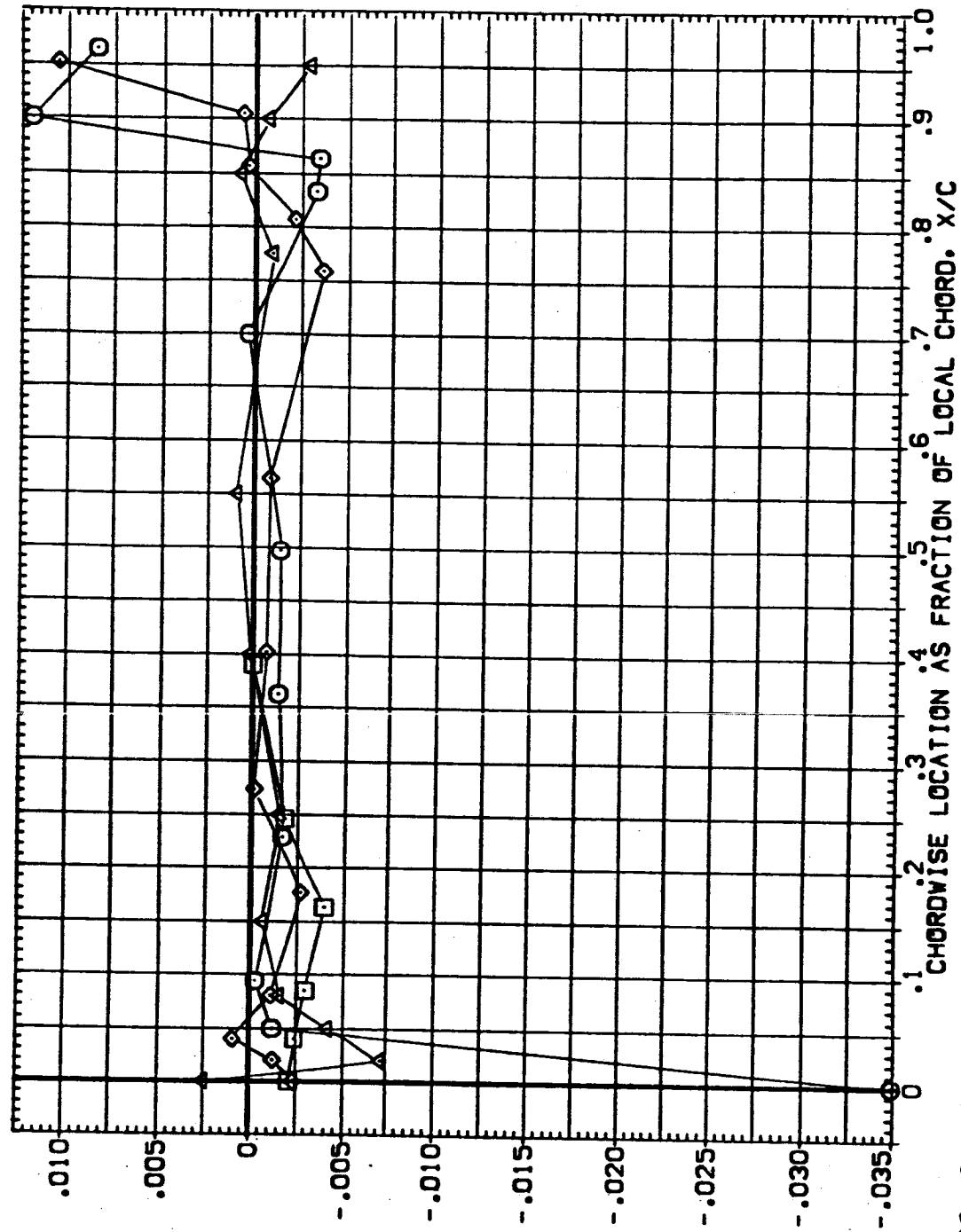


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL	21/8	BETA	ALPHA	PARAMETRIC VALUES
○	.641	.000	-4.000	ELV-IB 8.000 ELV-OB 4.000
□	.780			RUDER .000 MACH 1.400
◇	.887			GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

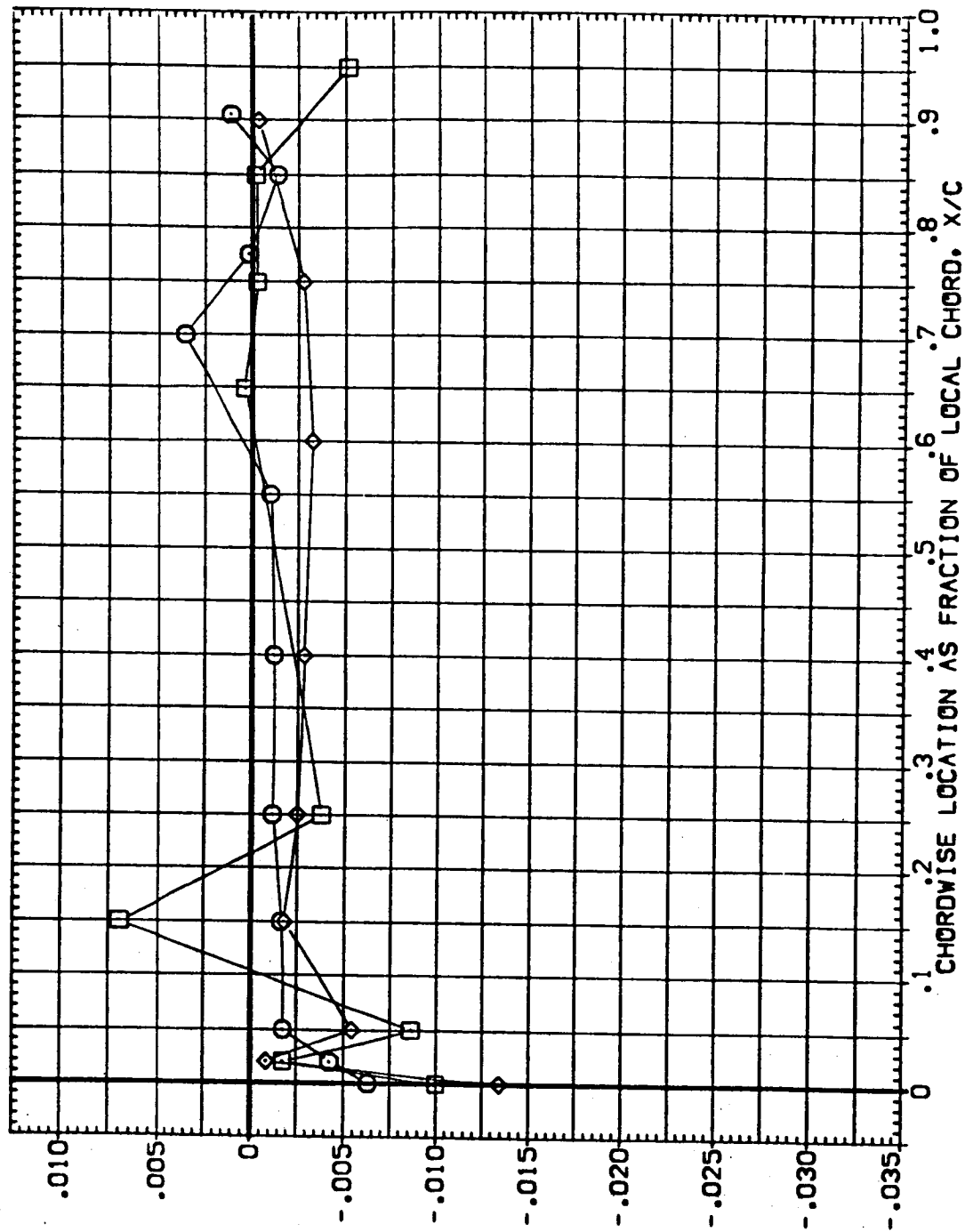


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EEUR08)

SYMBOL	21/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.259	.000	.000	RUDER	.000	MACH	1.400
□	.361			GIMBAL	1.000		
◇	.427						
△	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

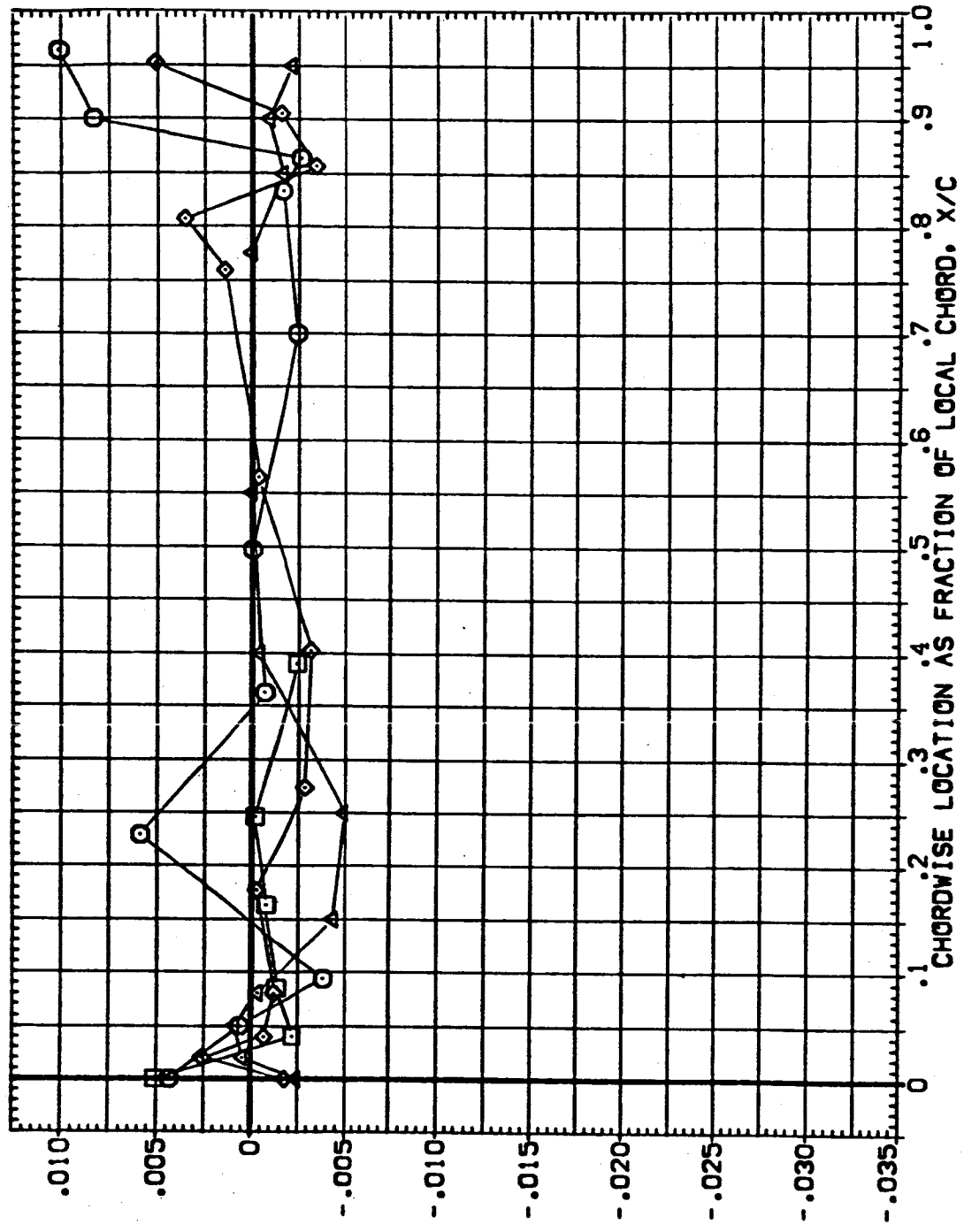


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-UI41A15 U15+5IKU1 SKB-NUM MP'S-NUM 10P WING(EEUR08)

SYMBOL 2N/8 BETA ALPHA

○ .641 .000 .000

□ .780 .000 .000

◇ .897 .000 .000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.400

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

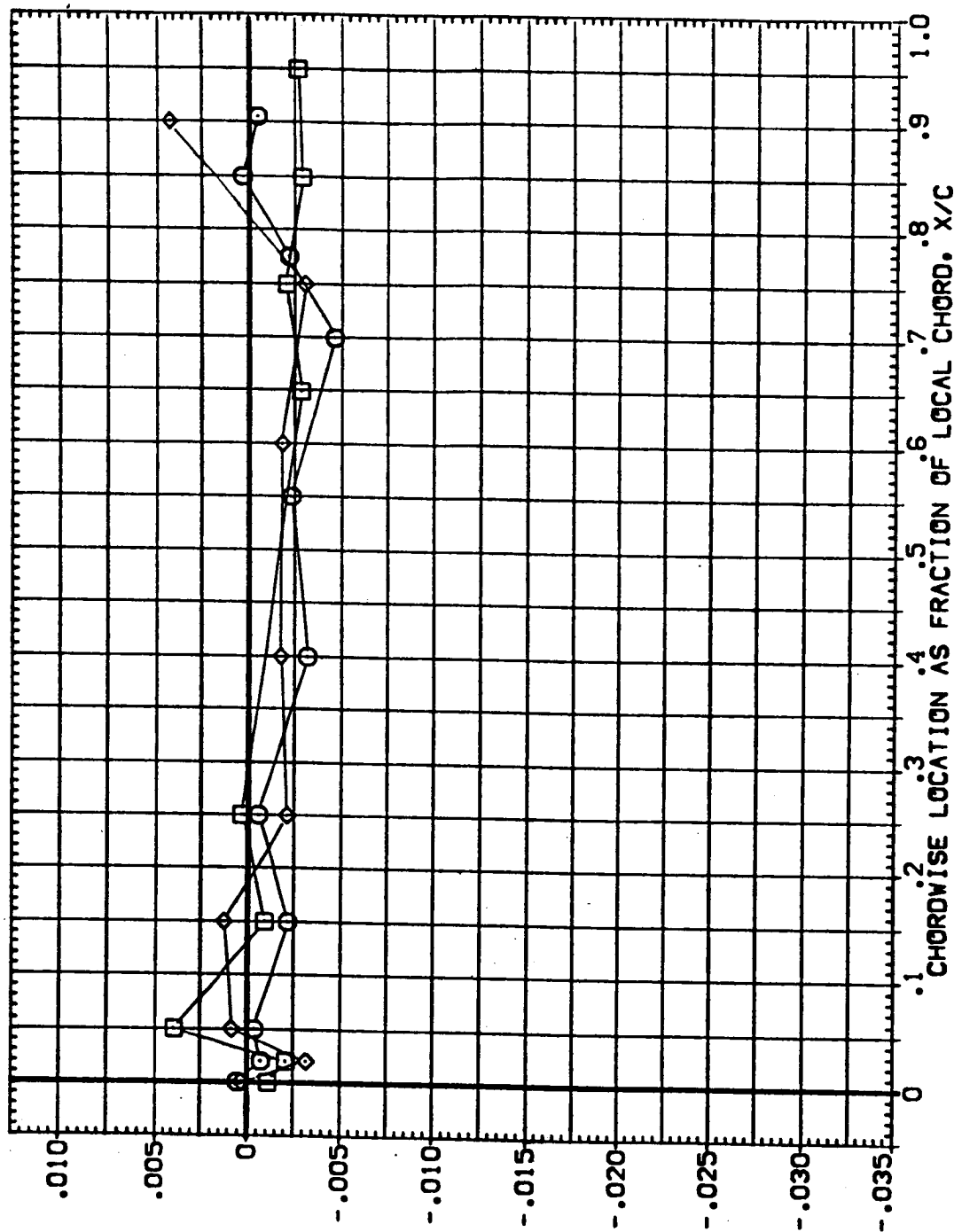


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EEUR08)

SYMBOL	21/8	BETA	ALPHA	ELV-18	ELV-08	PARAMETRIC VALUES
○	.299	.000	4.000	8.000	8.000	1.000
□	.364	.000	4.000	.000	.000	1.000
◇	.427	.000	4.000	.000	.000	1.000
△	.534	.000	4.000	.000	.000	1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

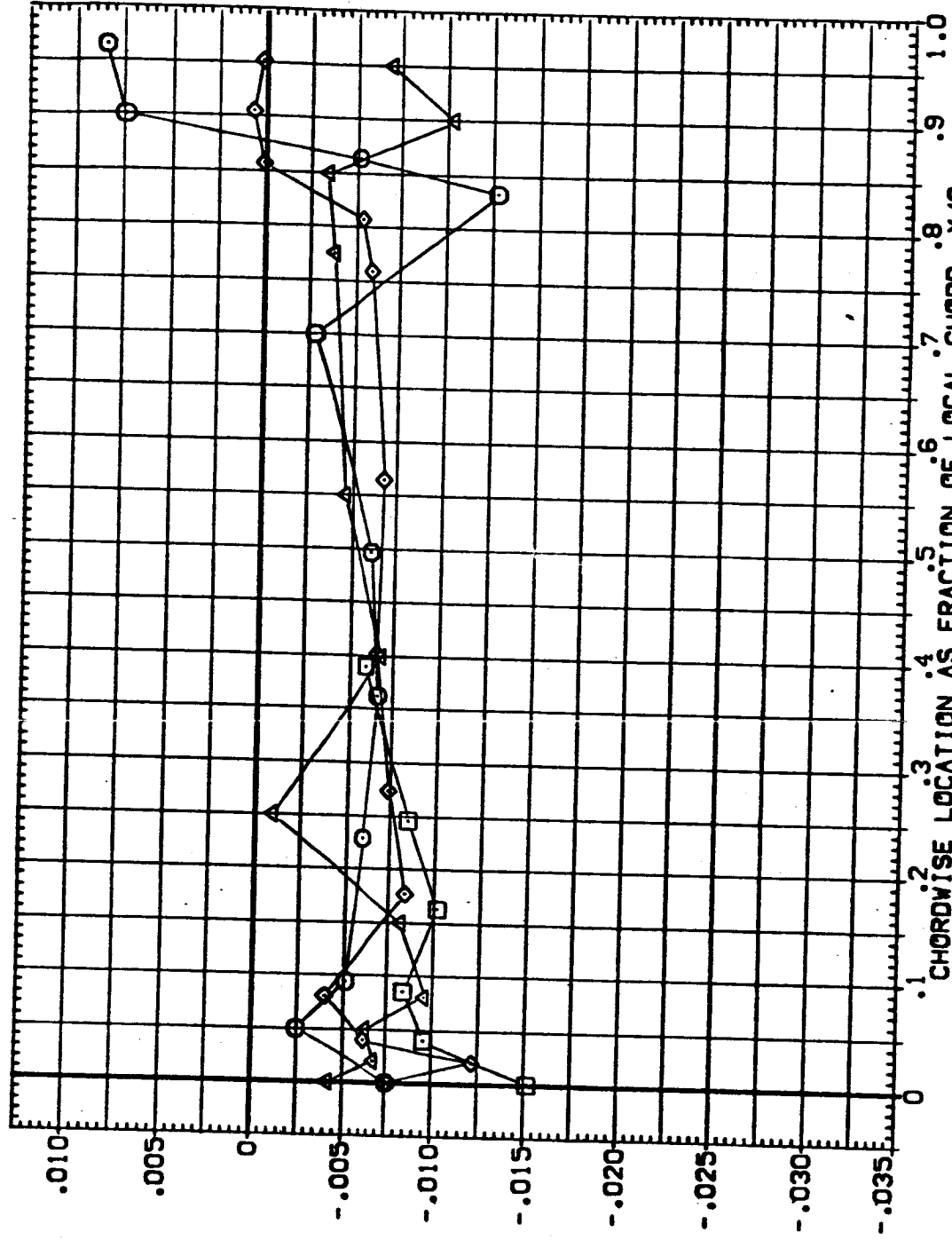


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(EEUR08)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 .641 .000 4.000
 .780
 .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

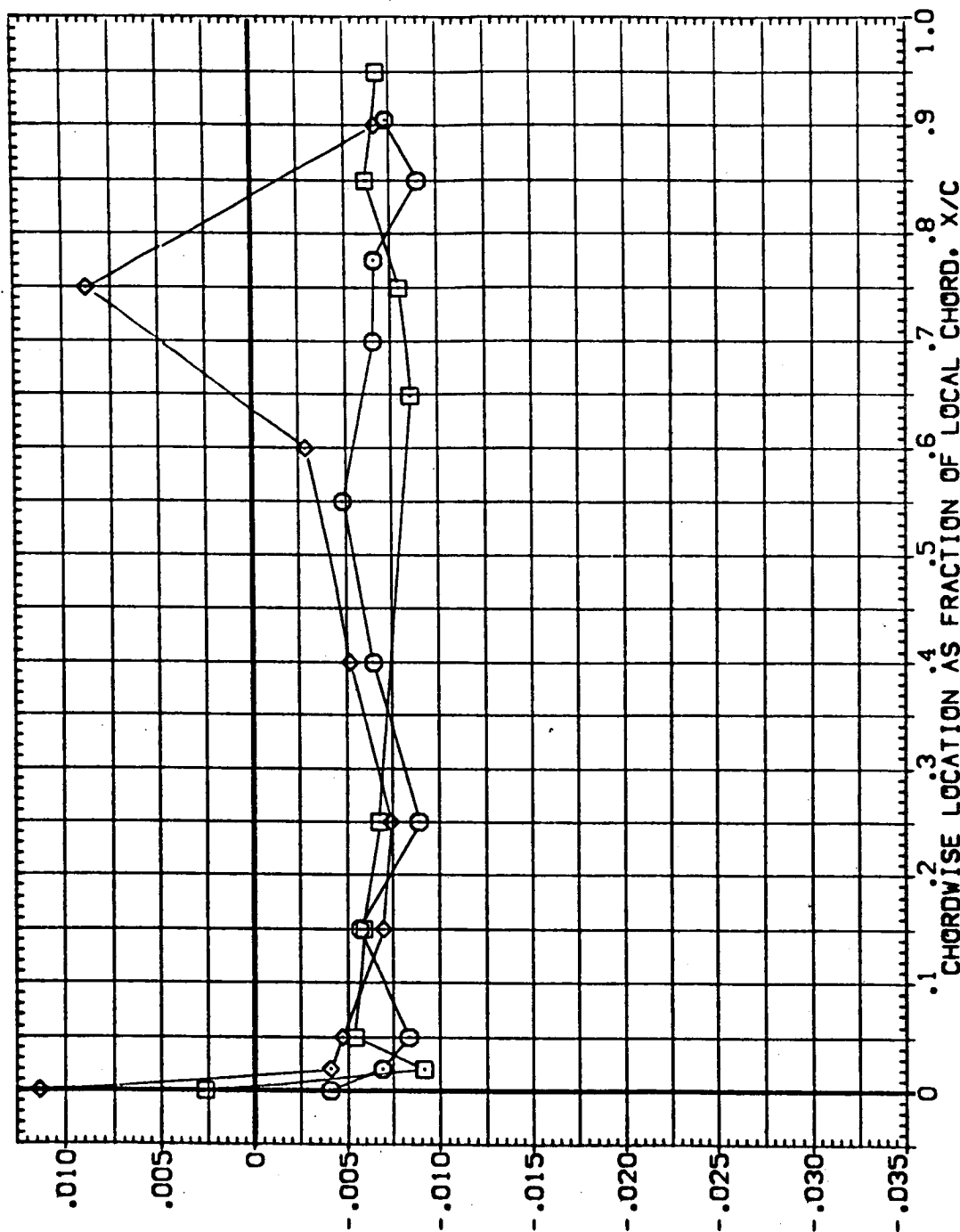


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEURE08)

SYMBOL	21/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.239	-4.000	.000	RUDER	.000	1.000	4.000
□	.364			GIMBAL			1.400
◇	.427						
△	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

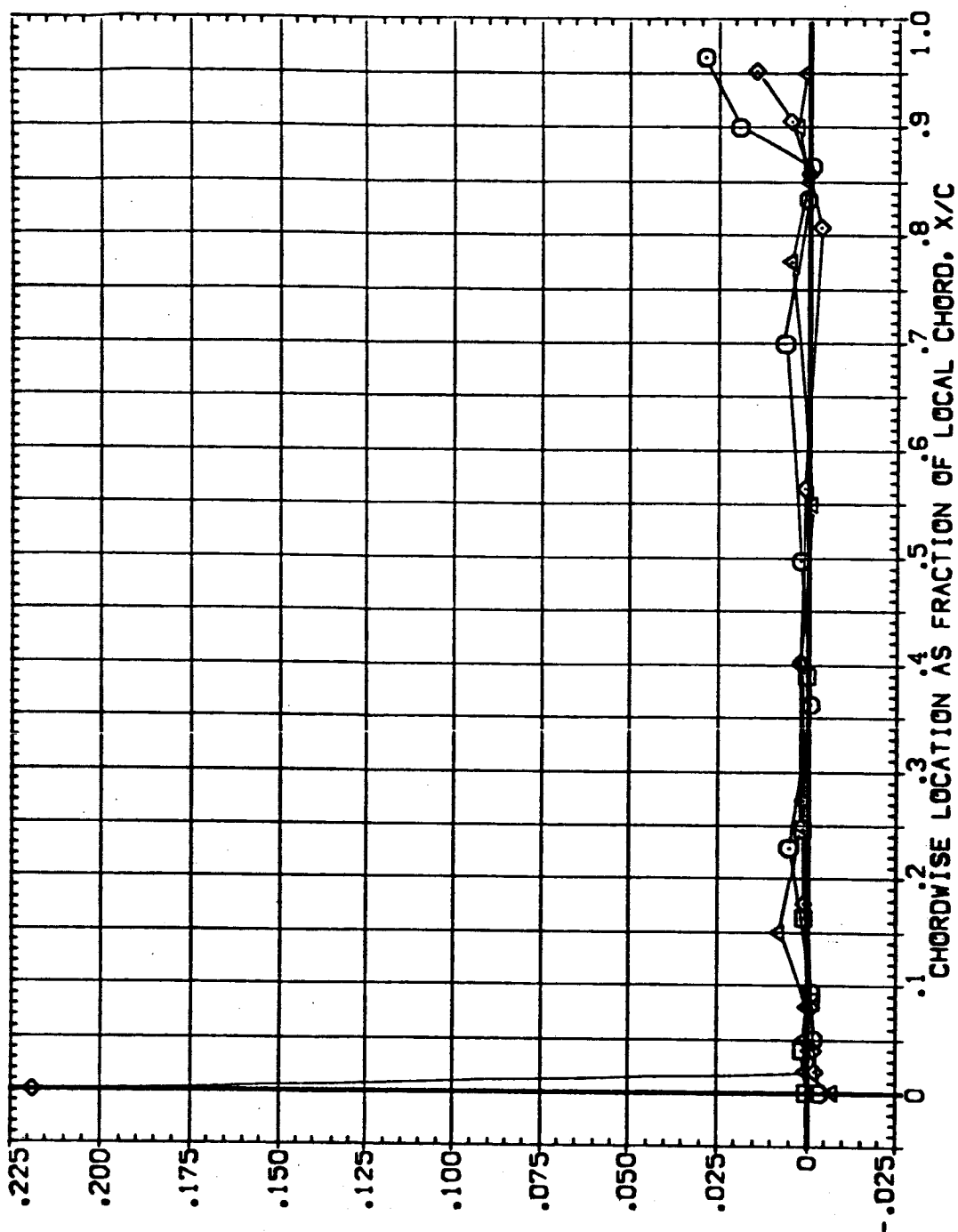


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEUR08)

SYMBOL	2V/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
◇	.641	-4.000	.000	RUDER	.000	1.000	4.000
□	.780			GIMBAL	1.000		1.400
◇	.887						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

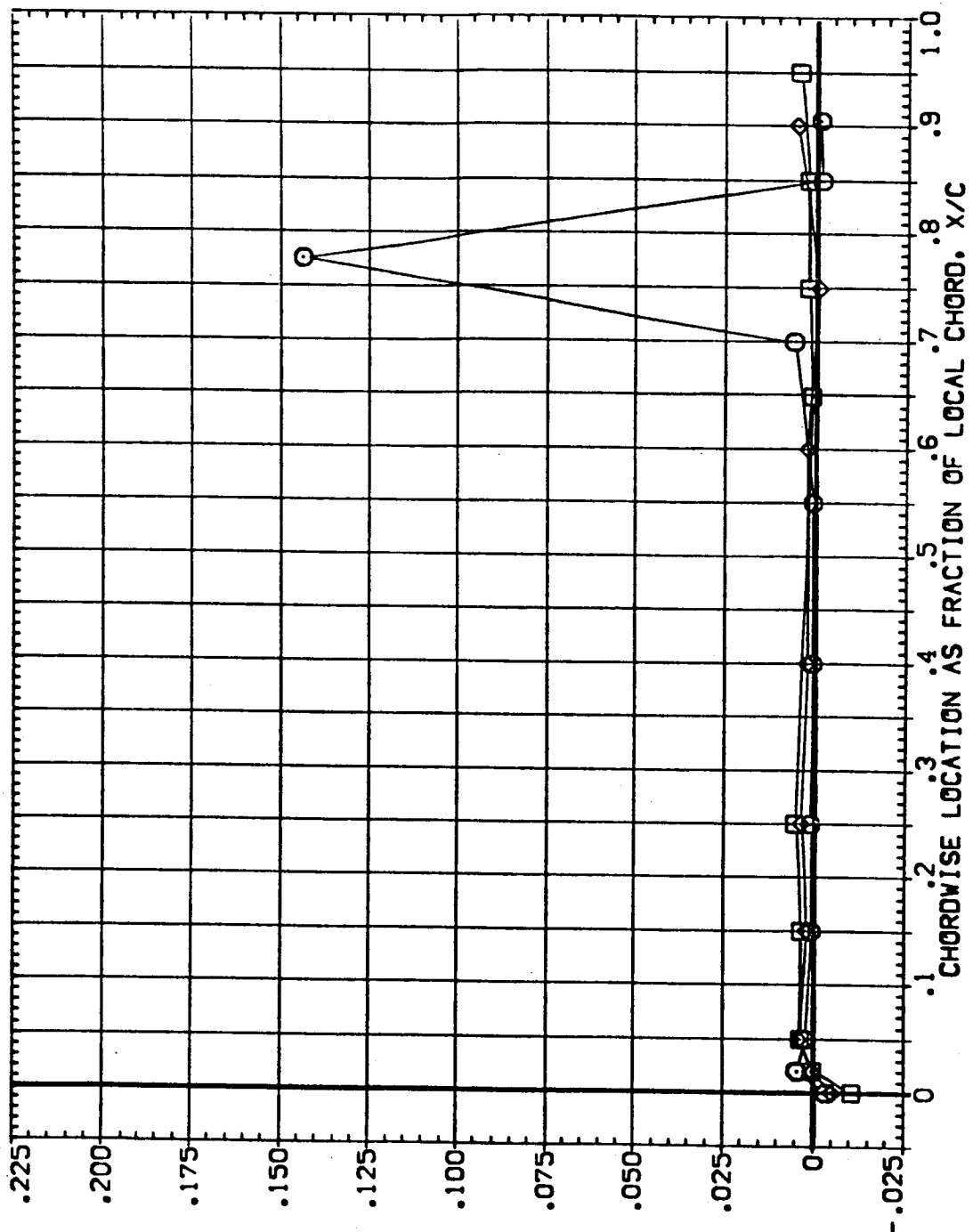


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEUR08)

SYMBOL 21/8 BETA ALPHA
 ○ .259 1.000 .000
 □ .361
 ◇ .427
 △ .534

PARAMETRIC VALUES
 ELV-18 9.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

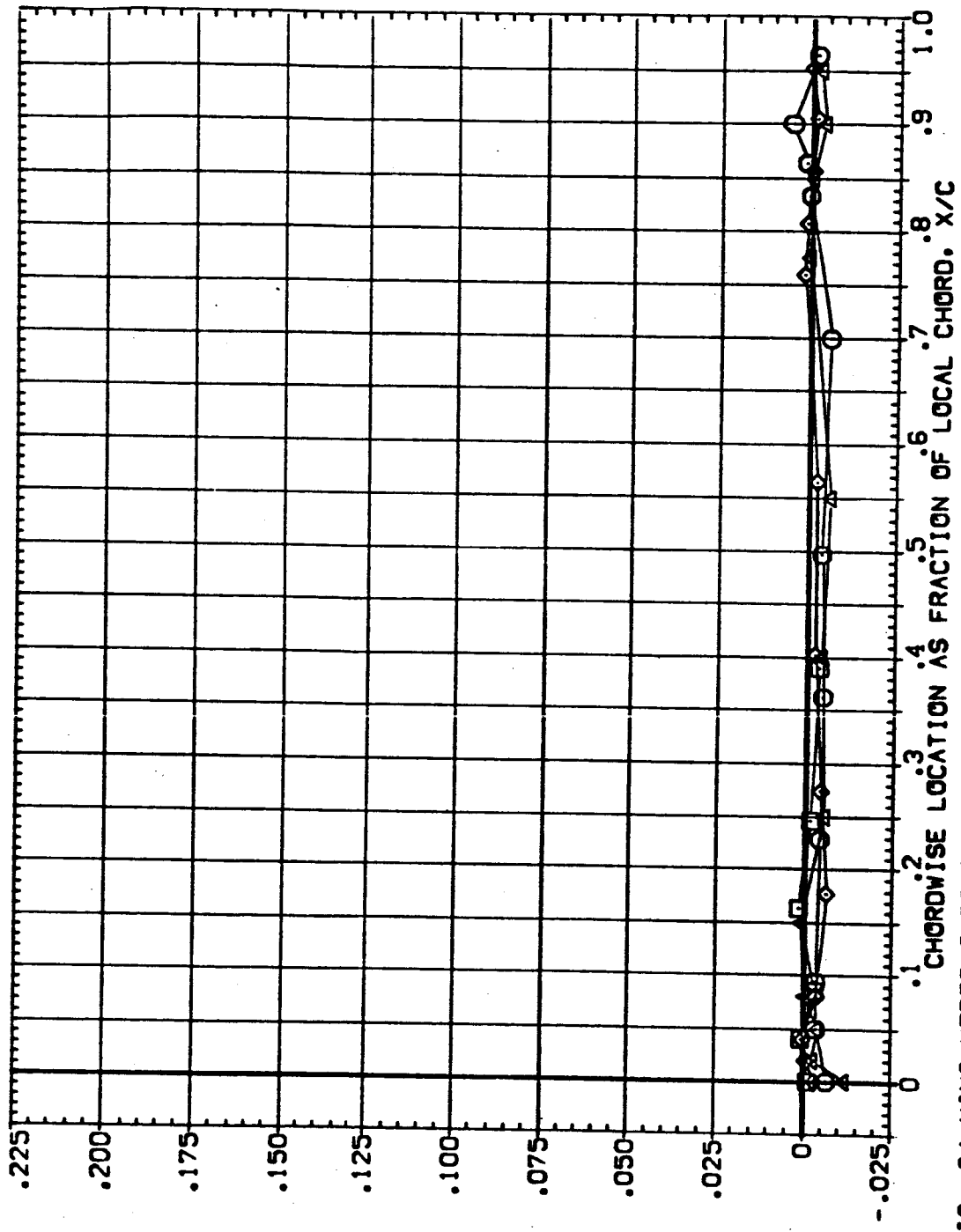


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM TOP WING(FEUR08)

SYMBOL	2V/B	BETA	ALPHA	ELV-18	ELV-08
○	.641	4.000	.000	8.000	8.000
□	.780			.000	.000
◇	.887			1.000	1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

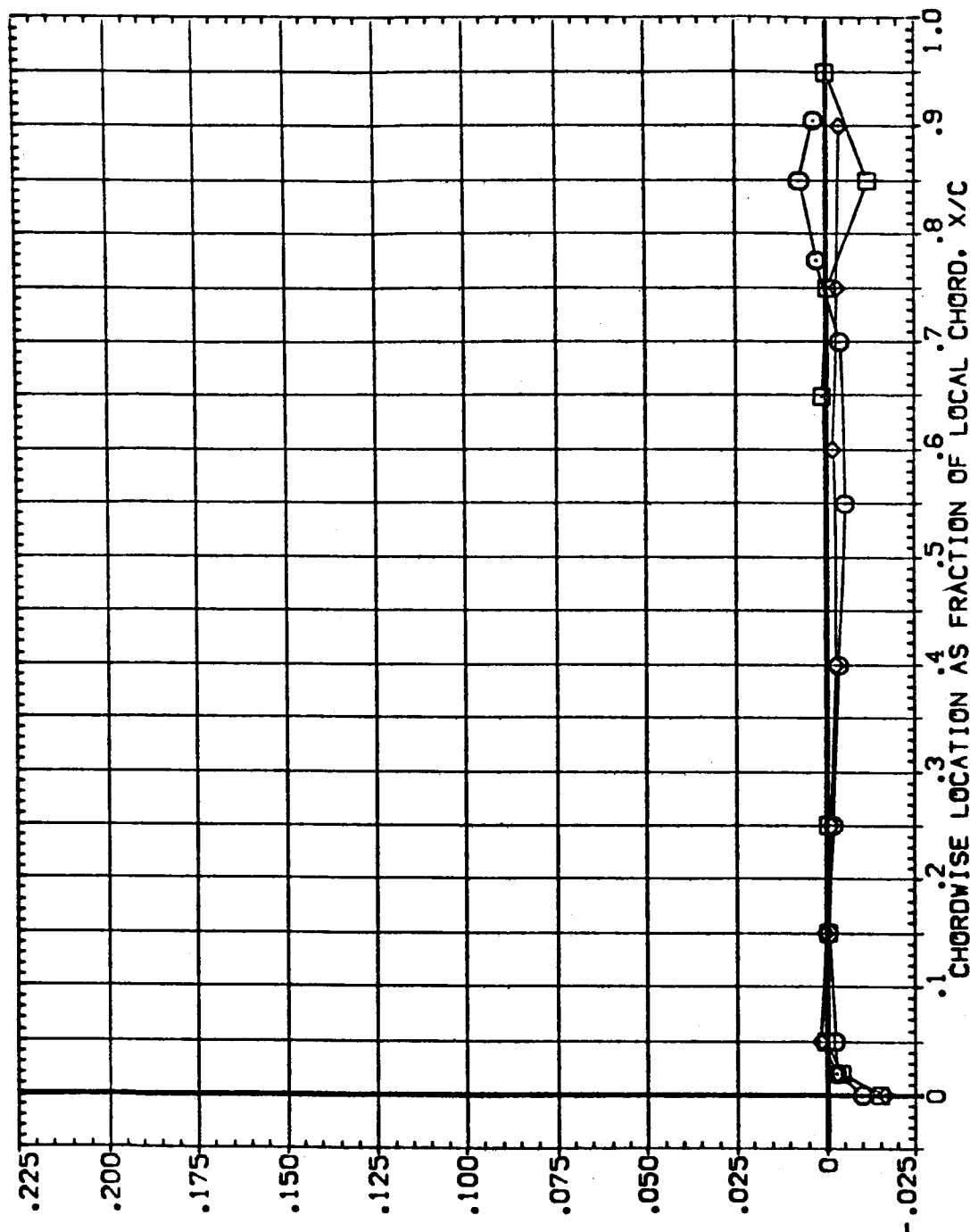


FIG. 94 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR13)

SYMBOL	21/18	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.289	.000	-4.000	8.000	8.000	1.000	4.000
□	.364			RUDDER			.900
◇	.427			GIMBAL			
△	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

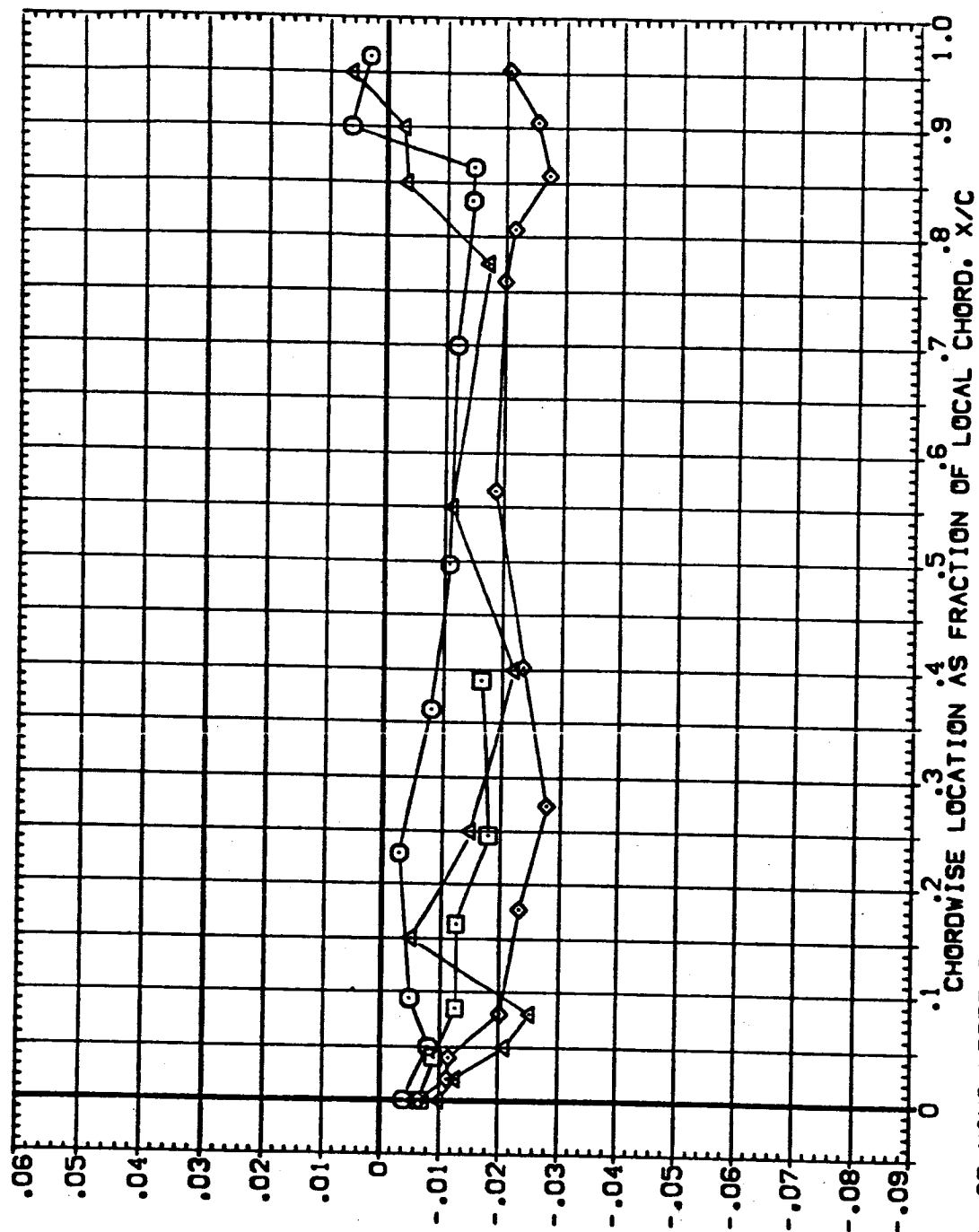


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR13)

SYMBOL	2 γ /8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.641	.000	-4.000	RUDER	.000	1.000	4.000
□	.780			GINBAL			.900
◇	.087						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

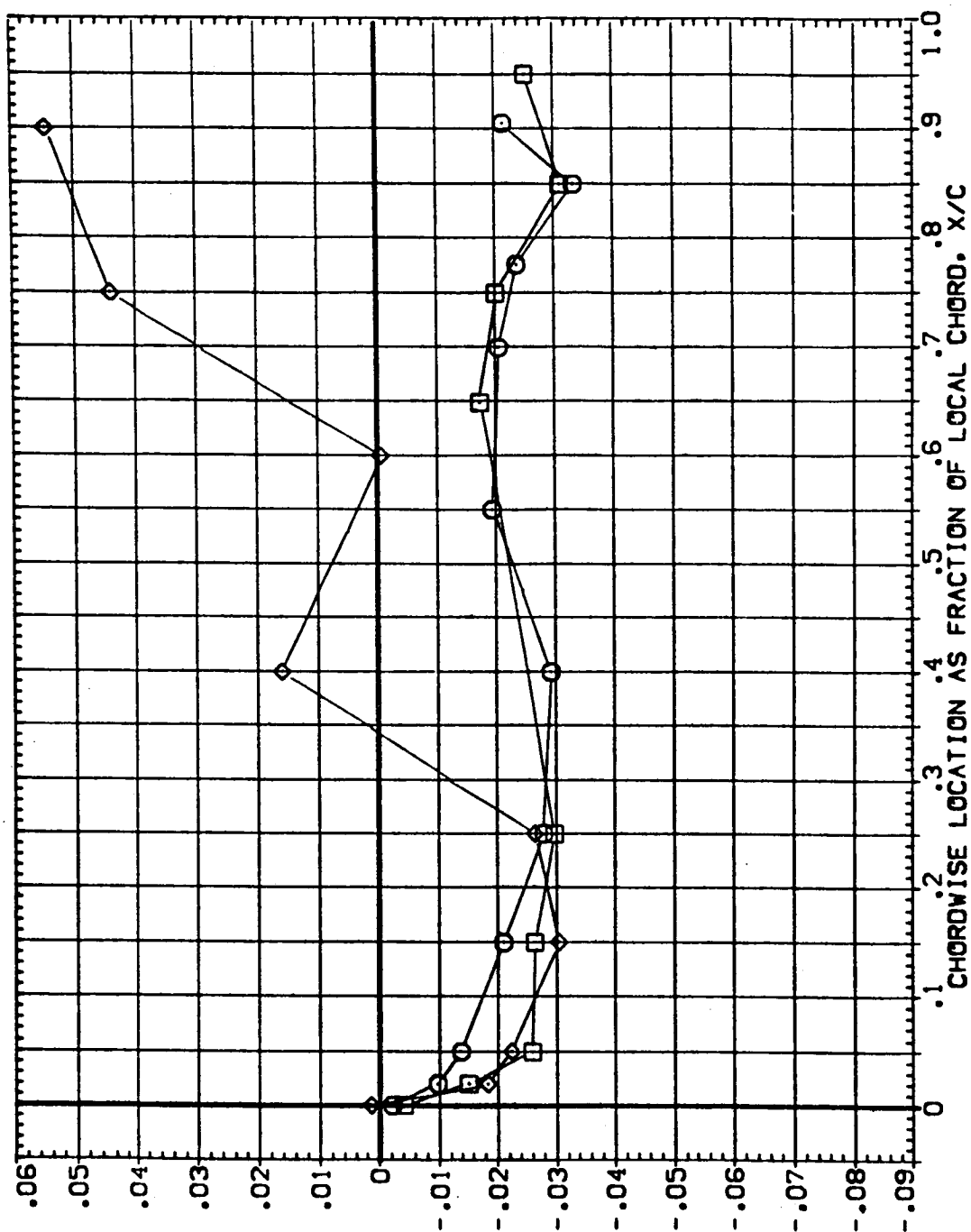


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR13)

SYMBOL	2V/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.299	.000	.000	RUDDER	.000	MACH	.500
□	.364			GIMBAL	1.000		
◇	.427						
△	.594						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

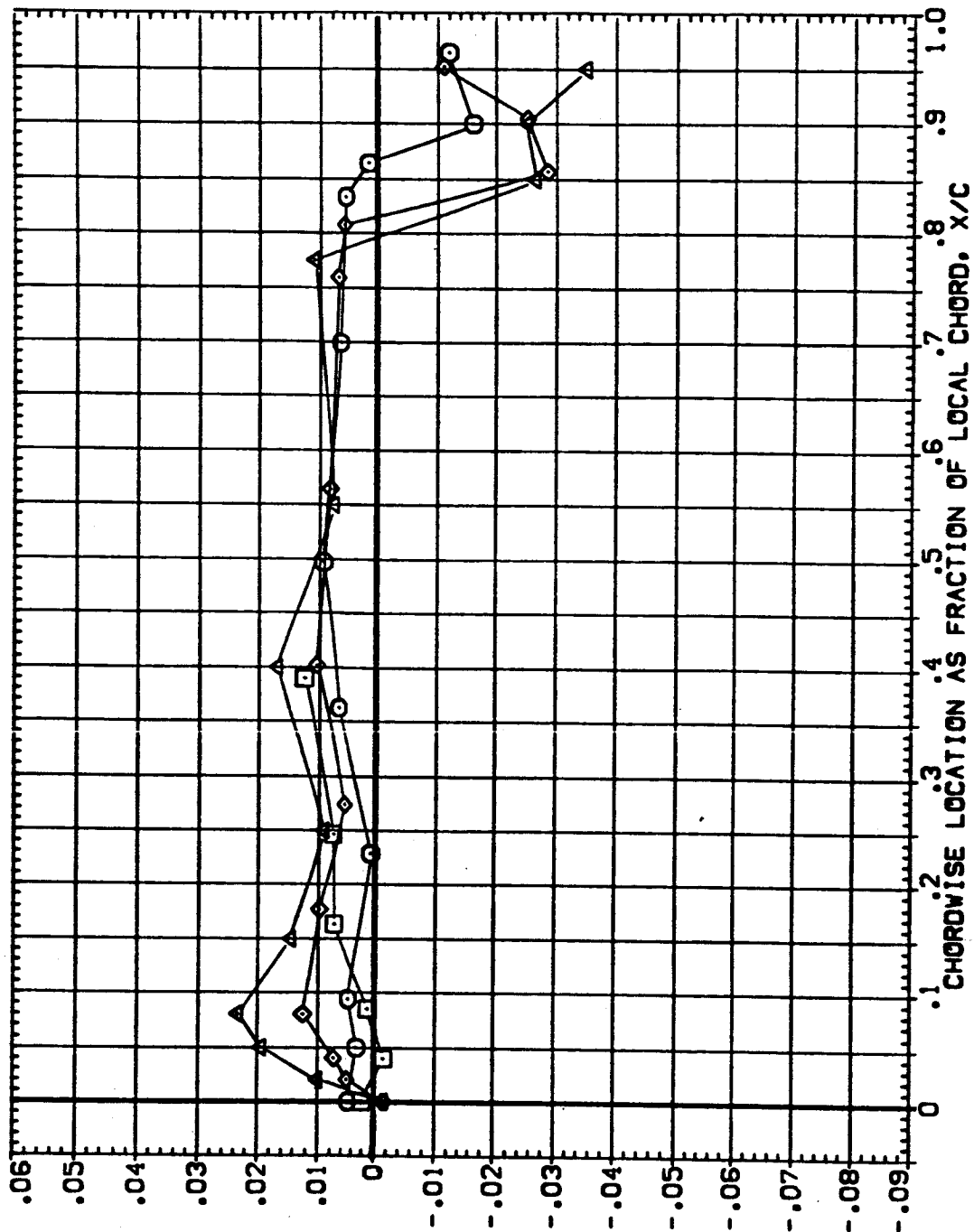


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

SYMBOL	21/8	BETA	ALPHA	ELV-18	ELV-08	PARAMETRIC VALUES
○	.641	.000	.000	RUDER	.000	4.000
□	.780	.000	.000	GIMBAL	.000	.900
◇	.887	.000	.000			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

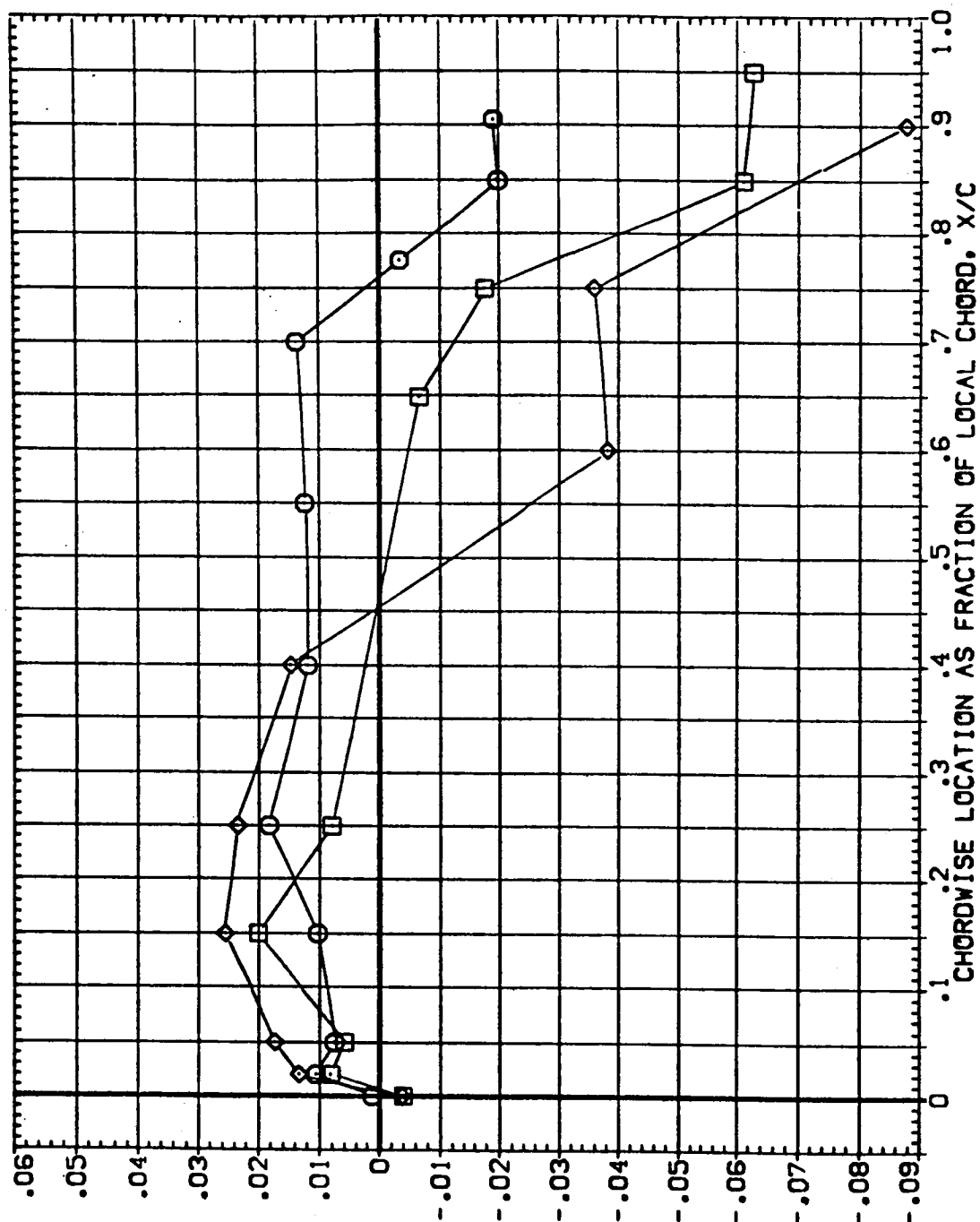


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR13)

SYMBOL	27/8	BETA	ALPHA	ELV-18	ELV-OB	PARAMETRIC VALUES
◇	.298	.000	4.000	RUDER	.000	MACH
□	.364			GIMBAL	1.000	
△	.427					
▽	.594					

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

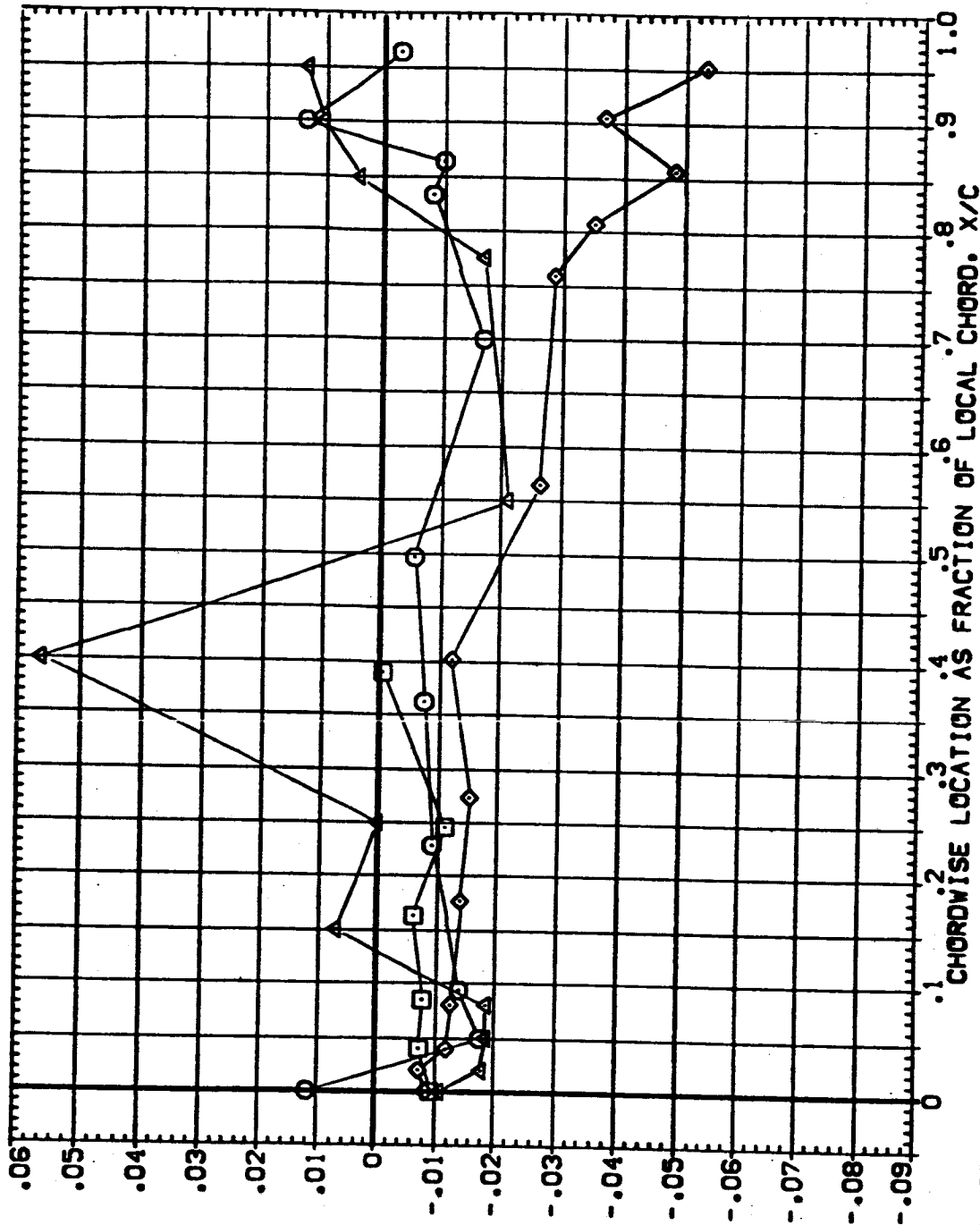


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR13)

SYMBOL	21/8	BETA	ALPHA	ELV-18	ELV-08	PARAMETRIC VALUES
◇	.641	.000	4.000	RUDER	.000	8.000
□	.700			GIMBAL	1.000	.900
	.867					4.000

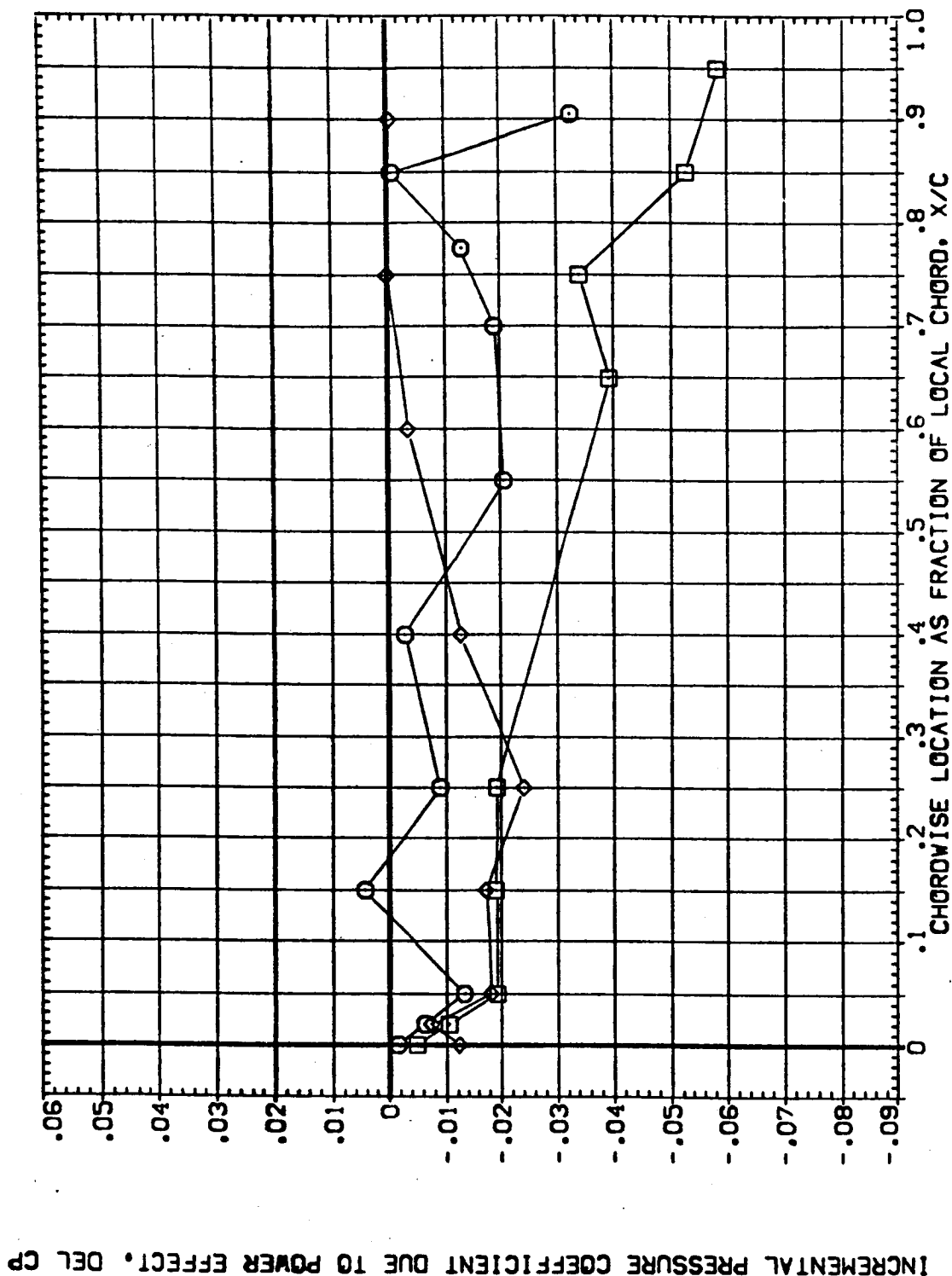


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR13)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	4.000
○	.299	-1.000	.000	RUDER	.000	MACH	.900
□	.364			GIMBAL	1.000		
◇	.427						
△	.534						

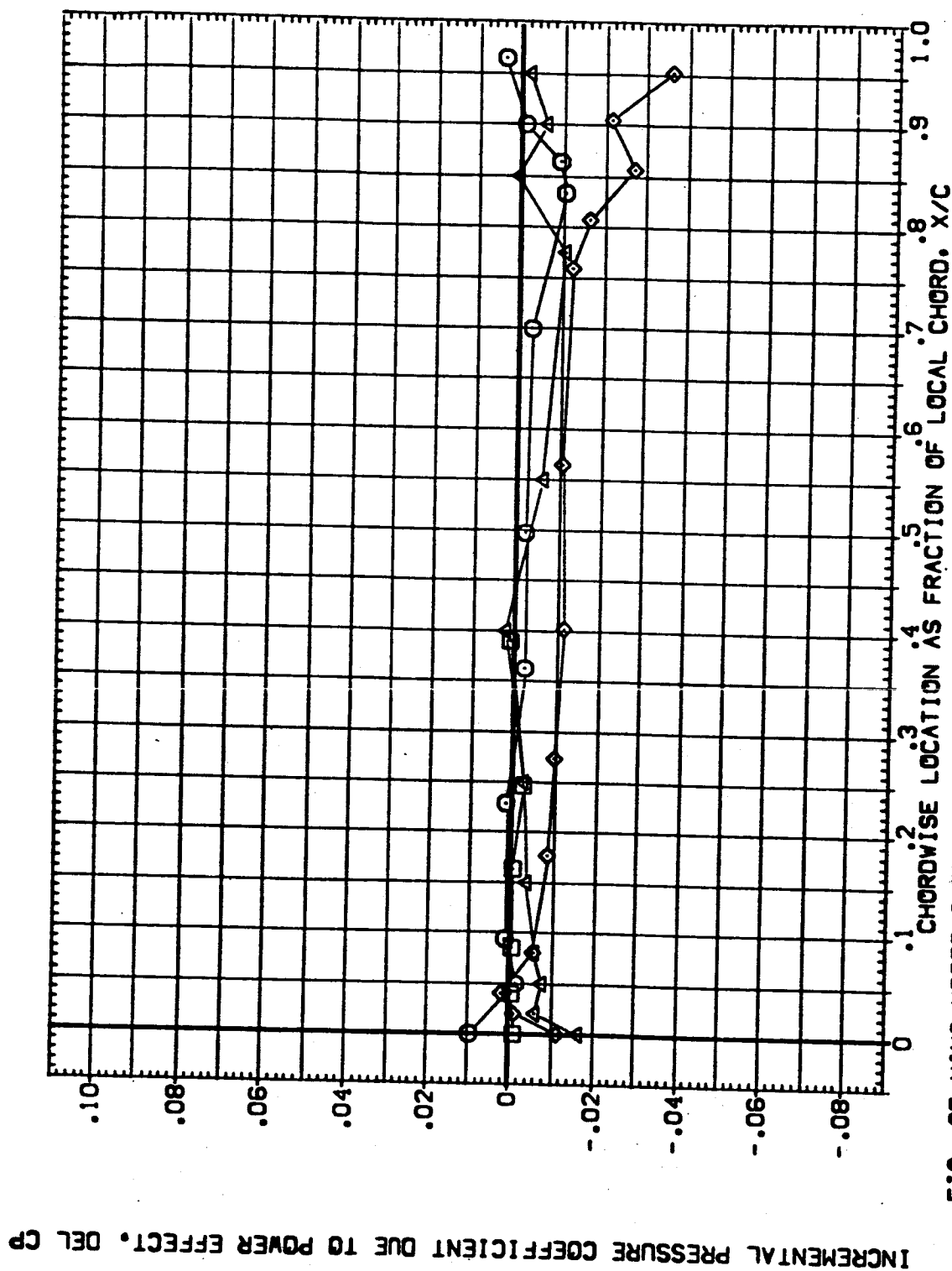


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR13)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL 2V/B BETA ALPHA
 ○ .641 -4.000 .000
 □ .780
 ◇ .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

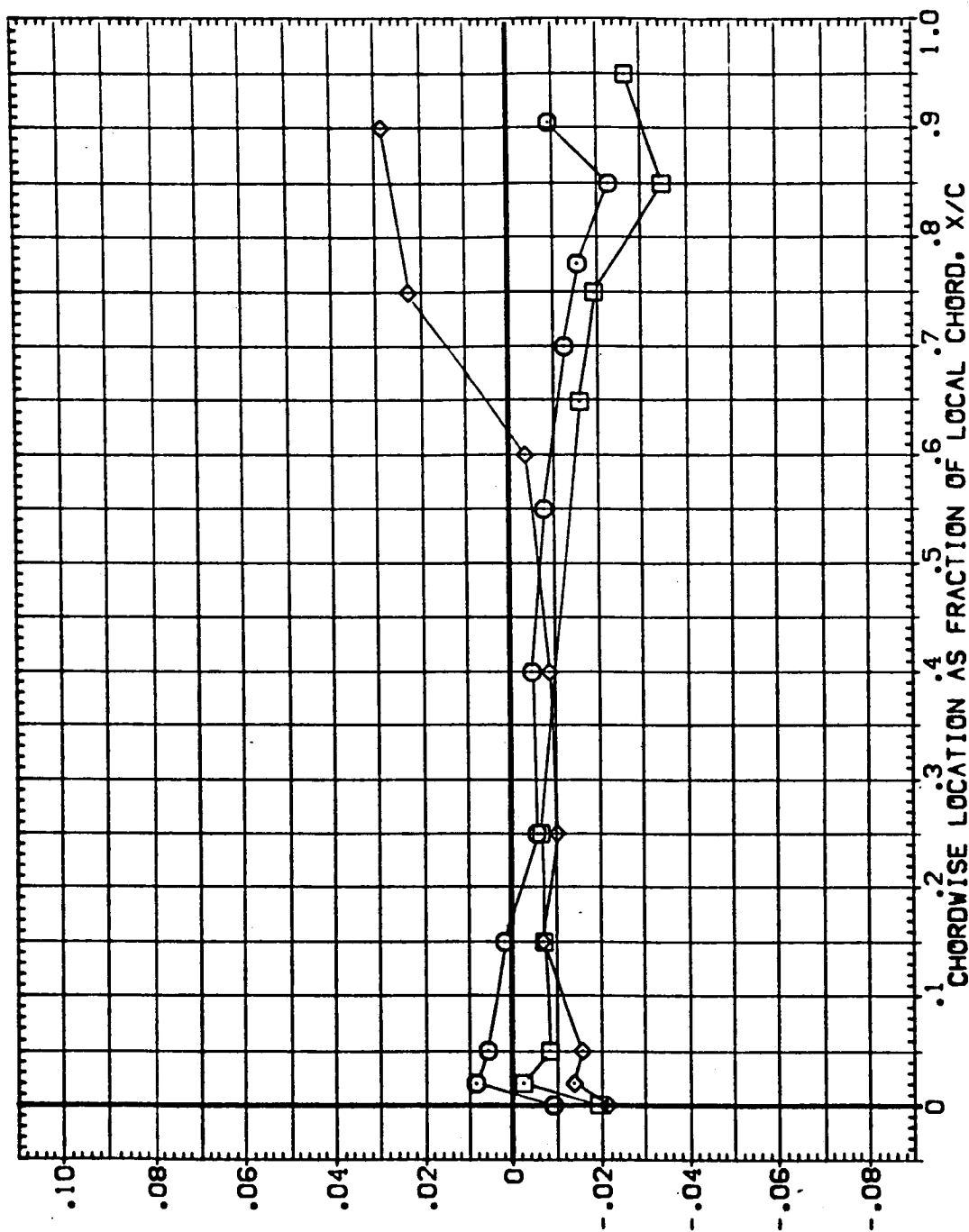


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR13)

SYMBOL	21/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
◇	.299	1.000	.000	8.000	8.000	1.000	4.000
□	.364			RUDDER			.900
△	.427			01MBAL			
	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

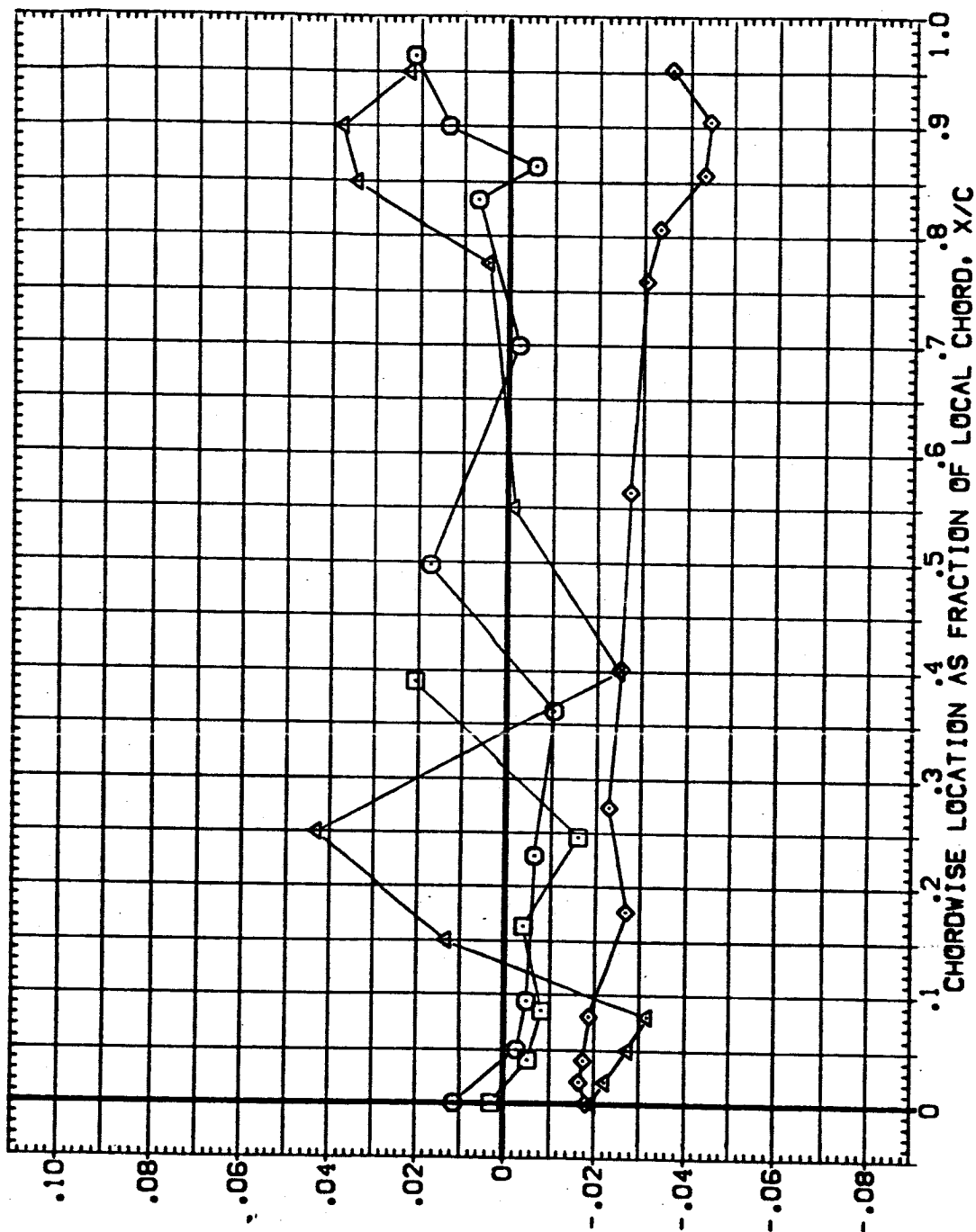


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

SYMBOL	21/8	BETA	ALPHA	PARAMETRIC VALUES
○	.841	4.000	.000	ELV-18 8.000 ELV-08 4.000
□	.780			RUDER .000 MACH .900
◇	.687			GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

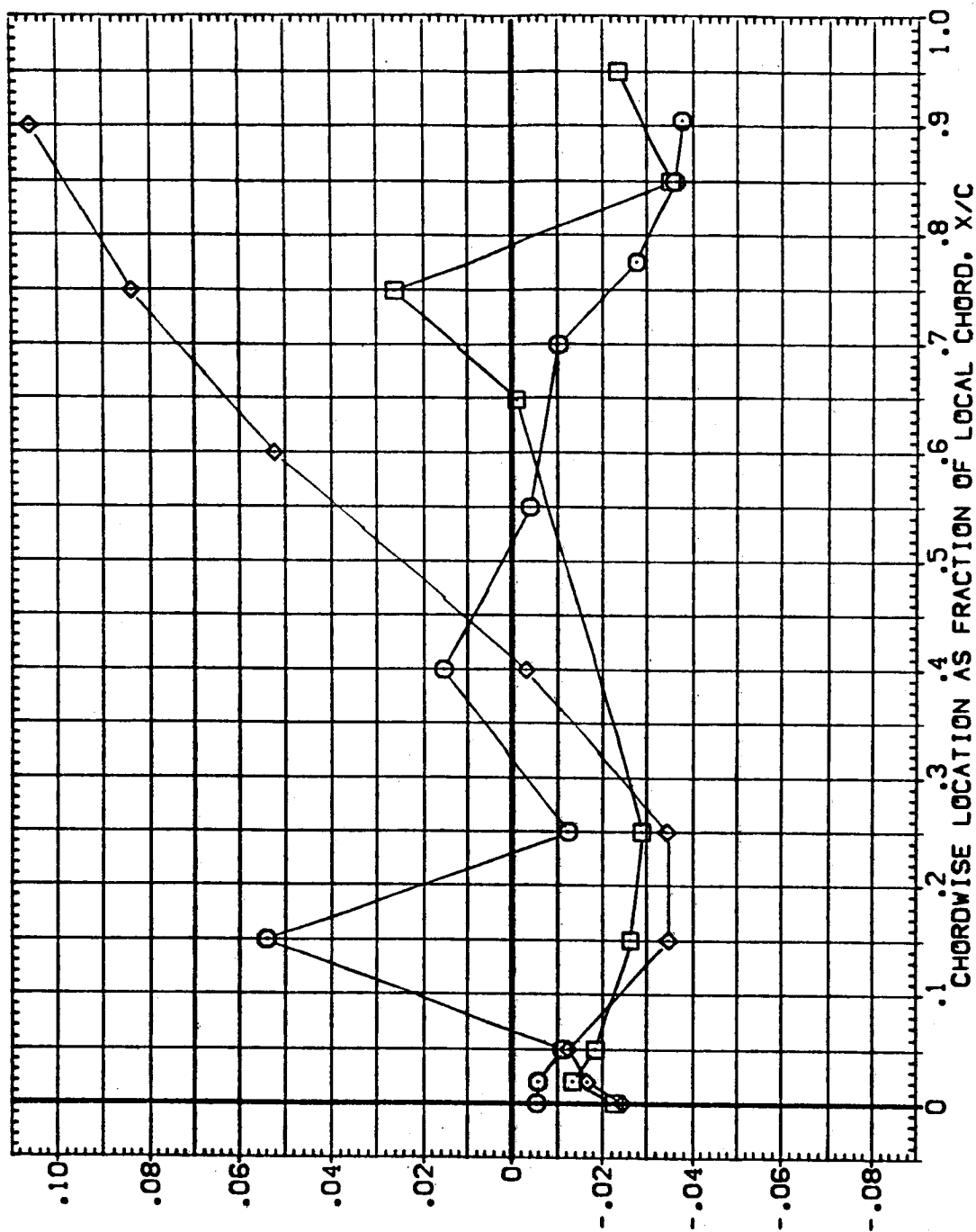


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR14)

SYMBOL	21/8	BETA	ALPHA	ELV-18	ELV-08	PARAMETRIC VALUES
◇	.299	.000	-4.000	RUDDER	.000	MACH
□	.364			GIMBAL	1.000	
△	.427					
○	.534					

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

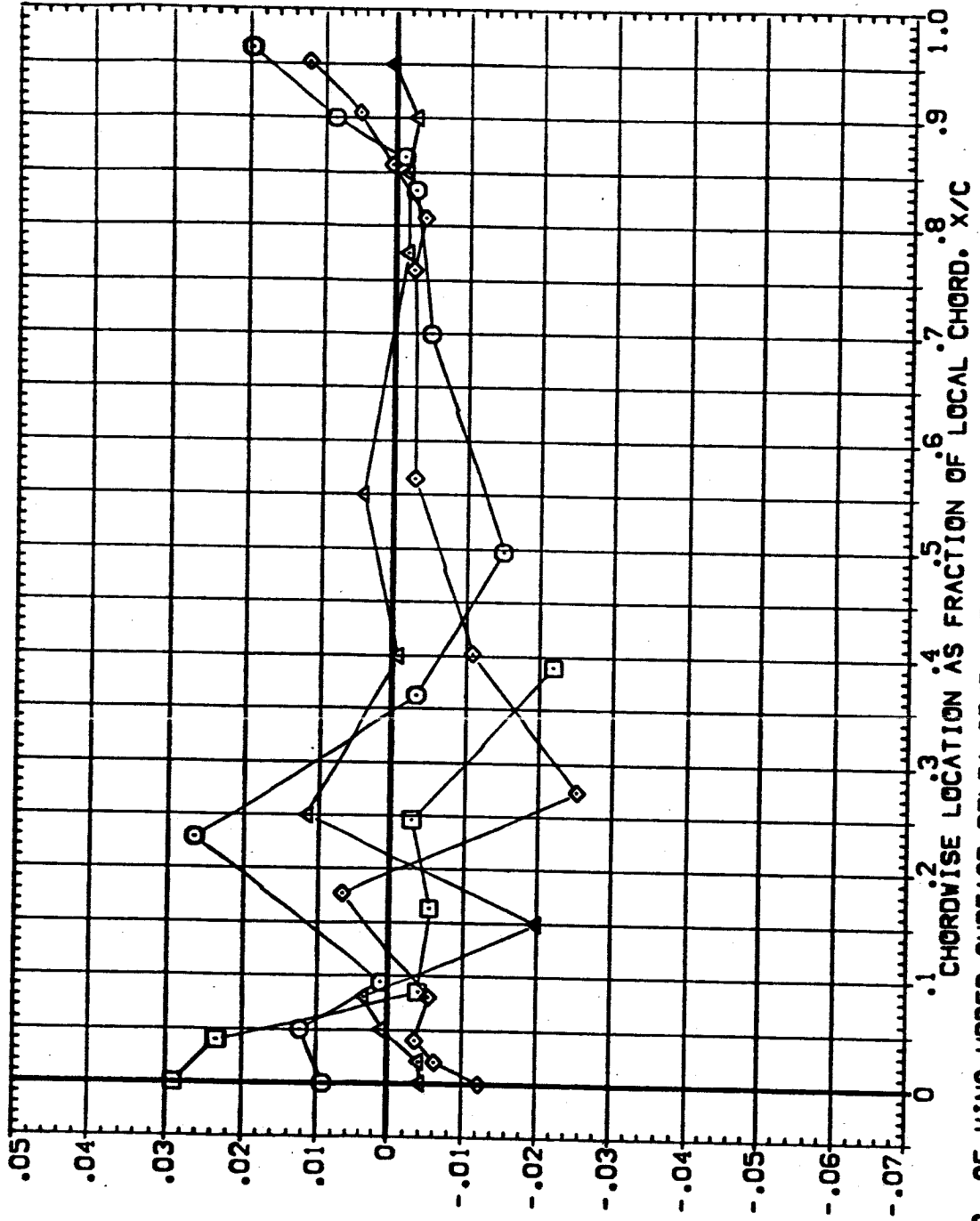


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

SYMBOL 2V/B BETA ALPHA ELV-18 ELV-09 4.000
 .641 .000 -4.000 RUDDER .000 MACH 1.100
 .780 .000 .000 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

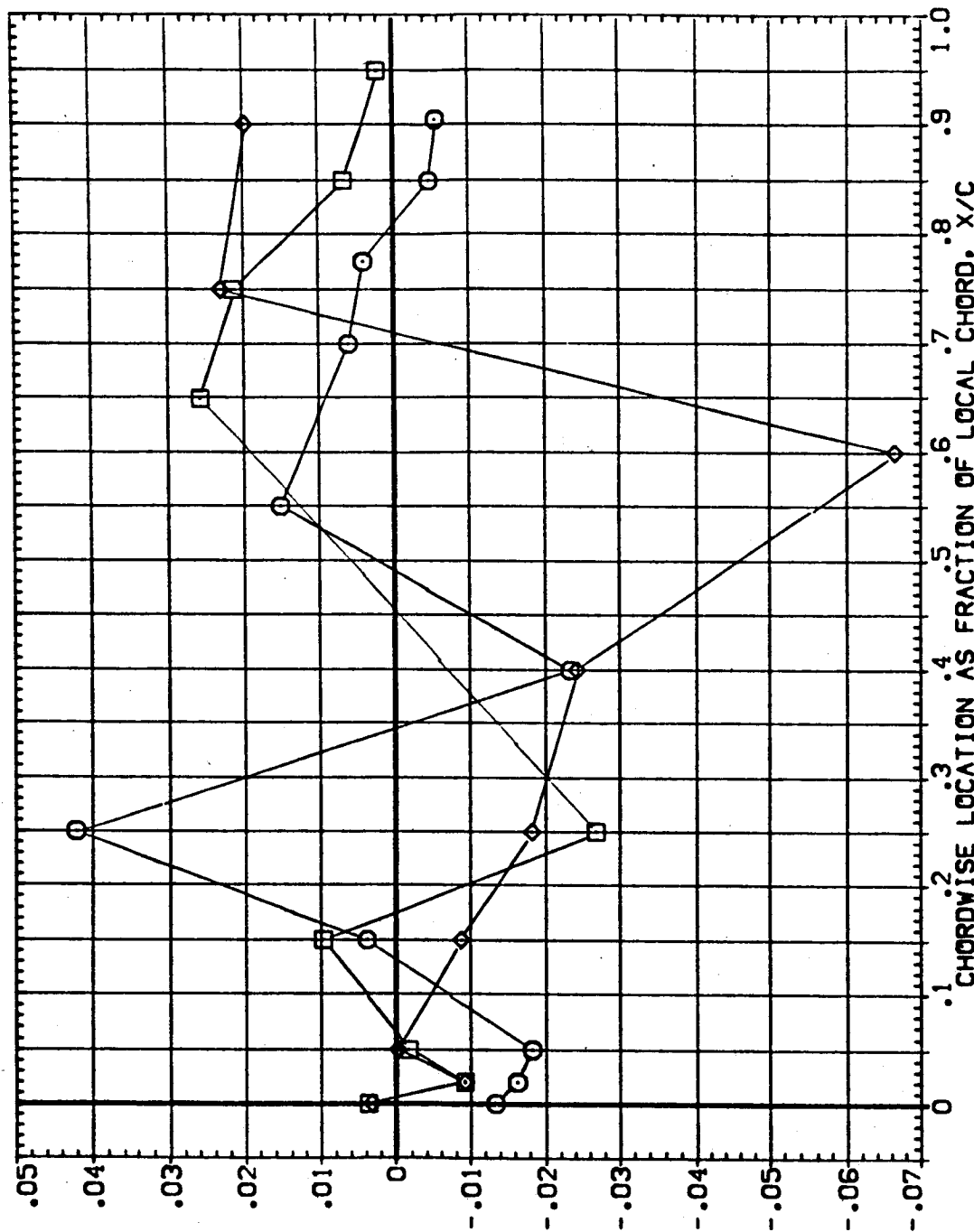


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR14)

SYMBOL 21/8 BETA ALPHA

◇	.259	.000	.000
□	.364	.000	.000
◇	.427	.000	.000
◇	.534	.000	.000

PARAMETRIC VALUES

ELV-18	8.000	ELV-08	4.000
RUDER	.000	MACH	1.100
GIMBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

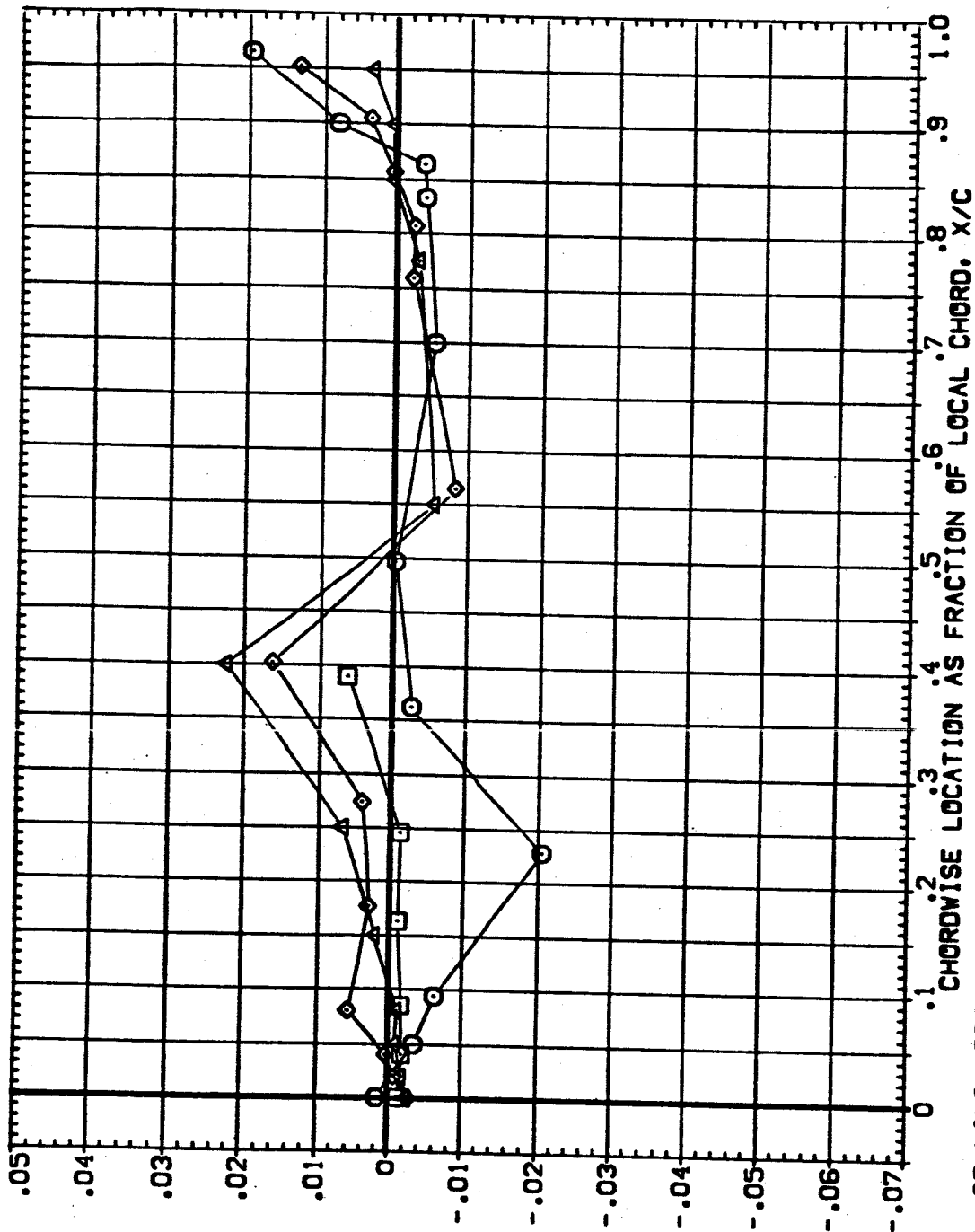


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

SYMBOL	2V/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-00	MACH
○	.641	.000	.000	RUDDER	.000	1.000	4.000
□	.780	.000	.000	GIMBAL	.000	1.000	1.100
◇	.887	.000	.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

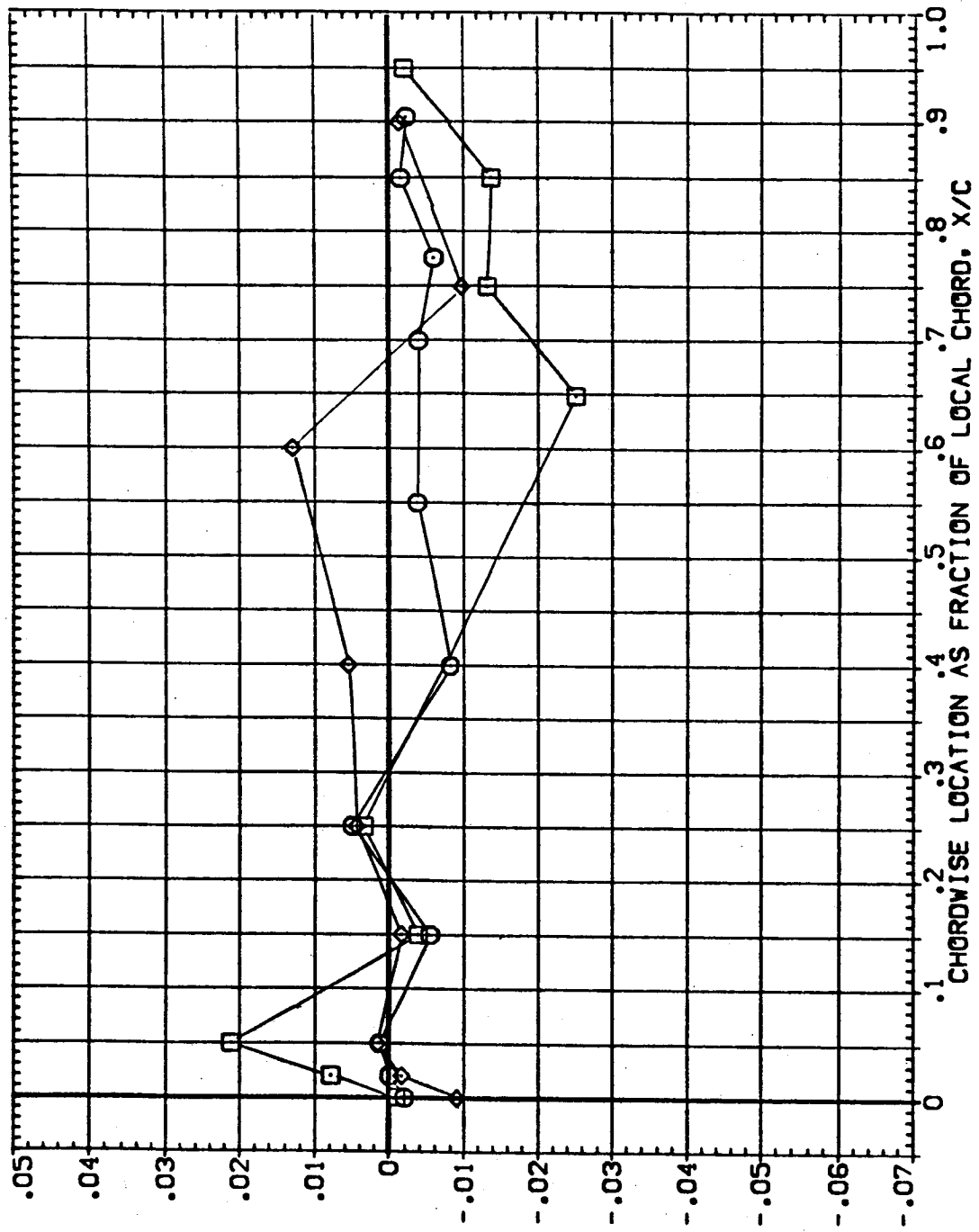


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR14)

SYMBOL	21/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
◇	.259	.000	4.000				4.000
□	.364			RUDER	.000		1.100
△	.427			GIMBAL	1.000		
○	.534						

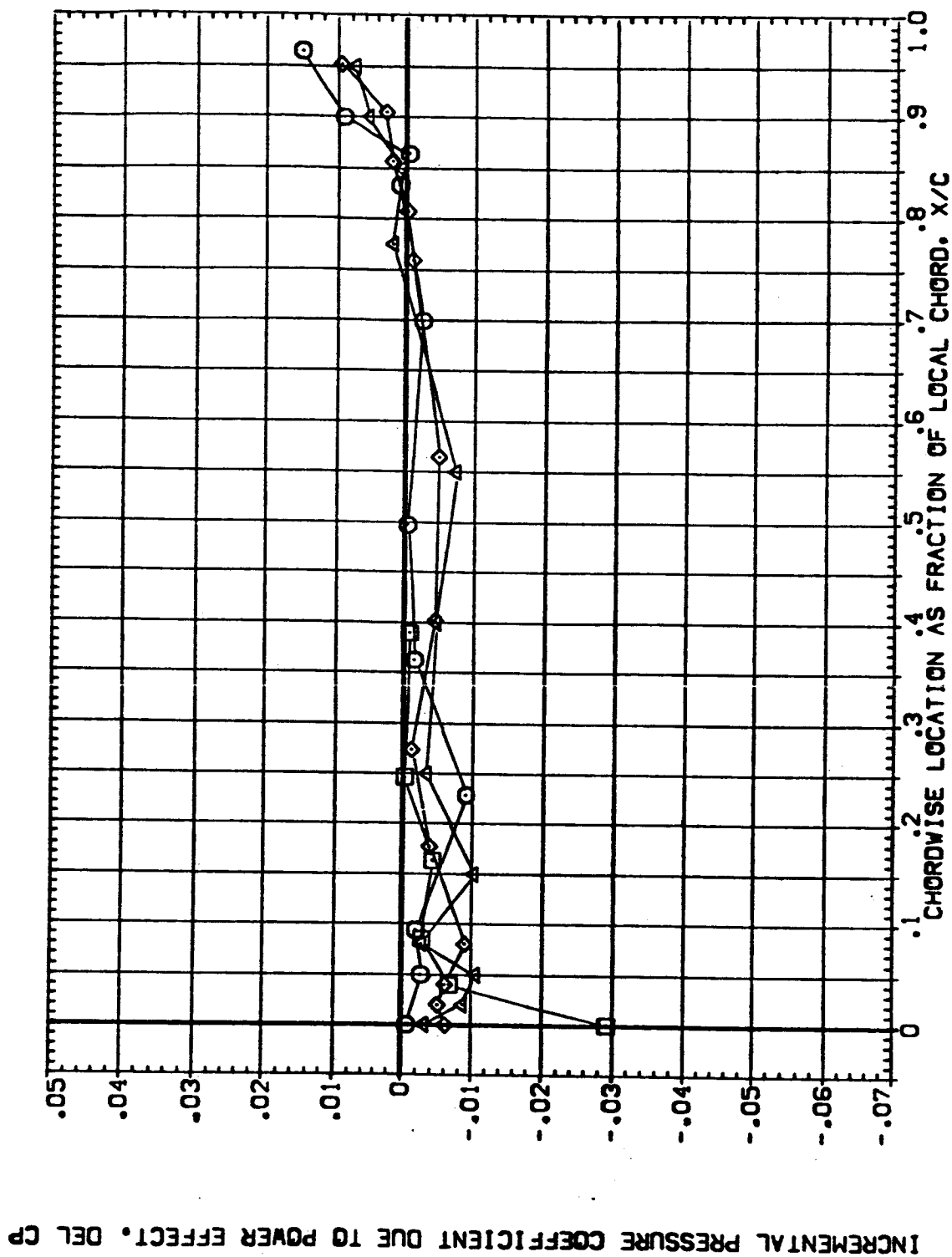


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR14)

SYMBOL	2N/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	1.000
○	.641	.000	4.000	RUDER	.000	MACH	1.100
□	.780			GIMBAL	1.000		
◇	.887						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

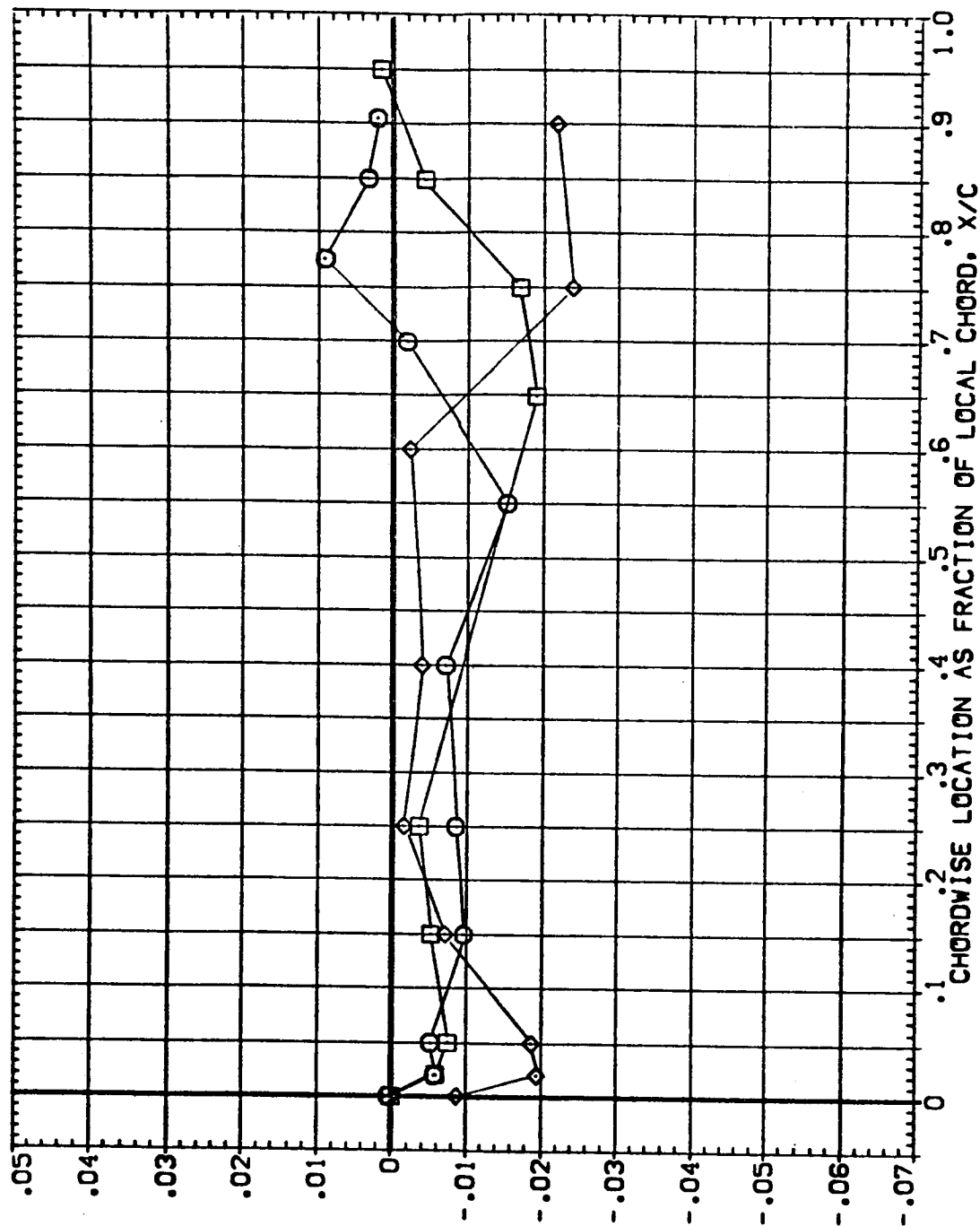


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR14)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
◇	.299	-4.000	.000	RUDDER	.000	MACH	1.100
□	.364			GIMBAL	1.000		
△	.427						
○	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

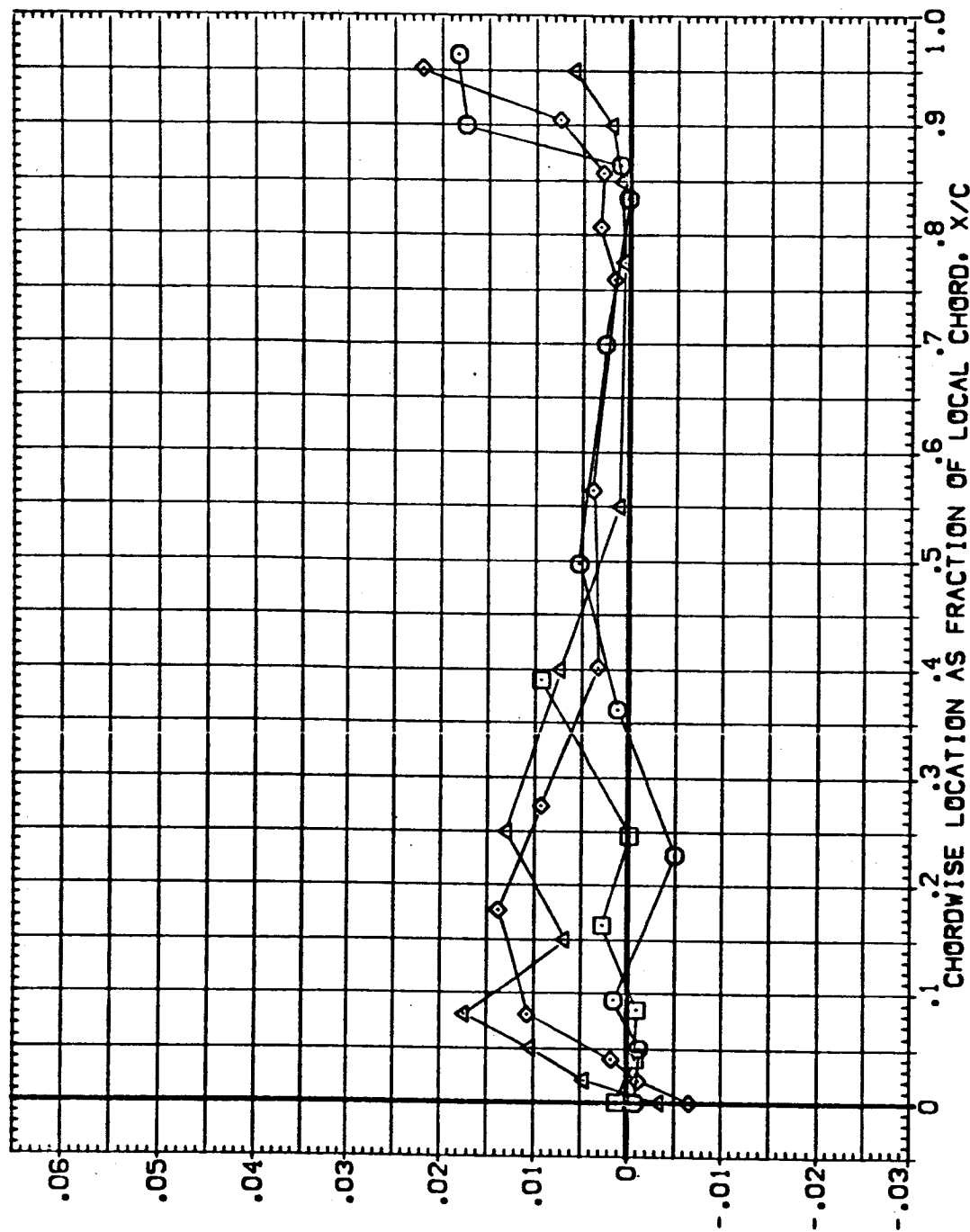


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL 21/B BETA ALPHA
 .641
 .780
 .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

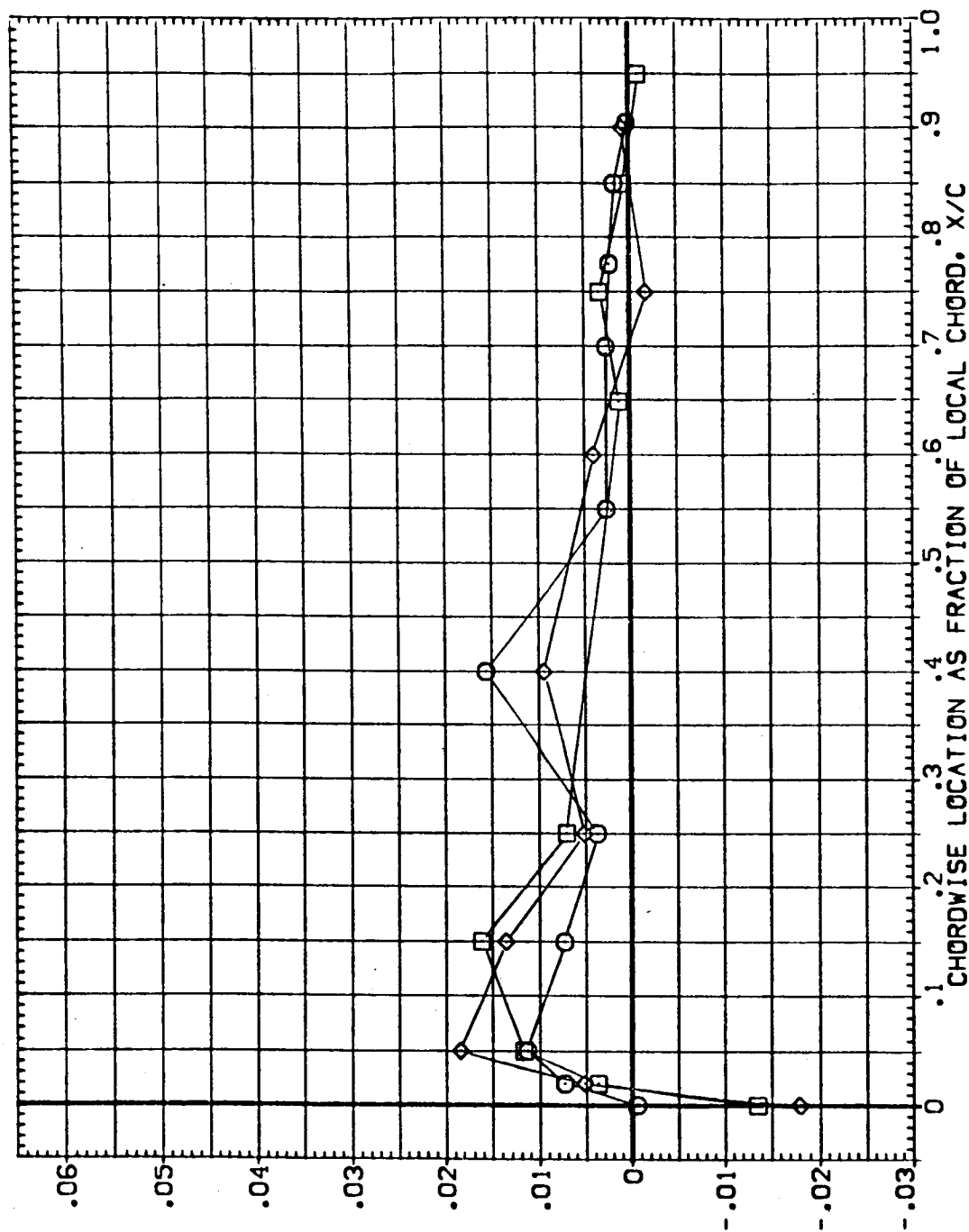


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR14)

SYMBOL	Z ₁ /B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
○	.299	4.000	.000	RUDER	.000	1.000	1.100
□	.364			GIMBAL			
◇	.427						
△	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

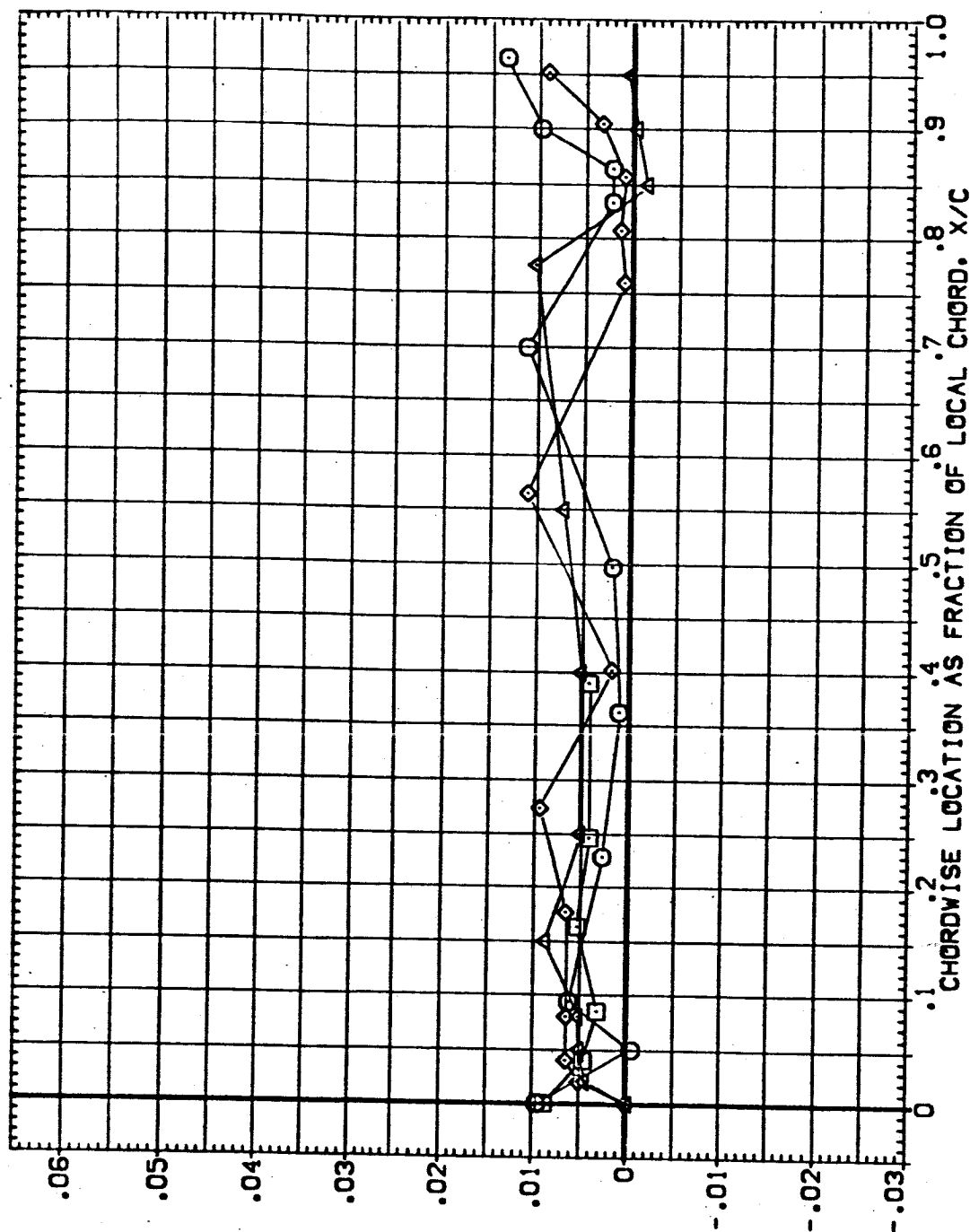


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

SYMBOL	Z1/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.641	4.000	.000	RUDDER	.000	1.000	4.000
□	.780			GIMBAL	1.000		1.100
◇	.887						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

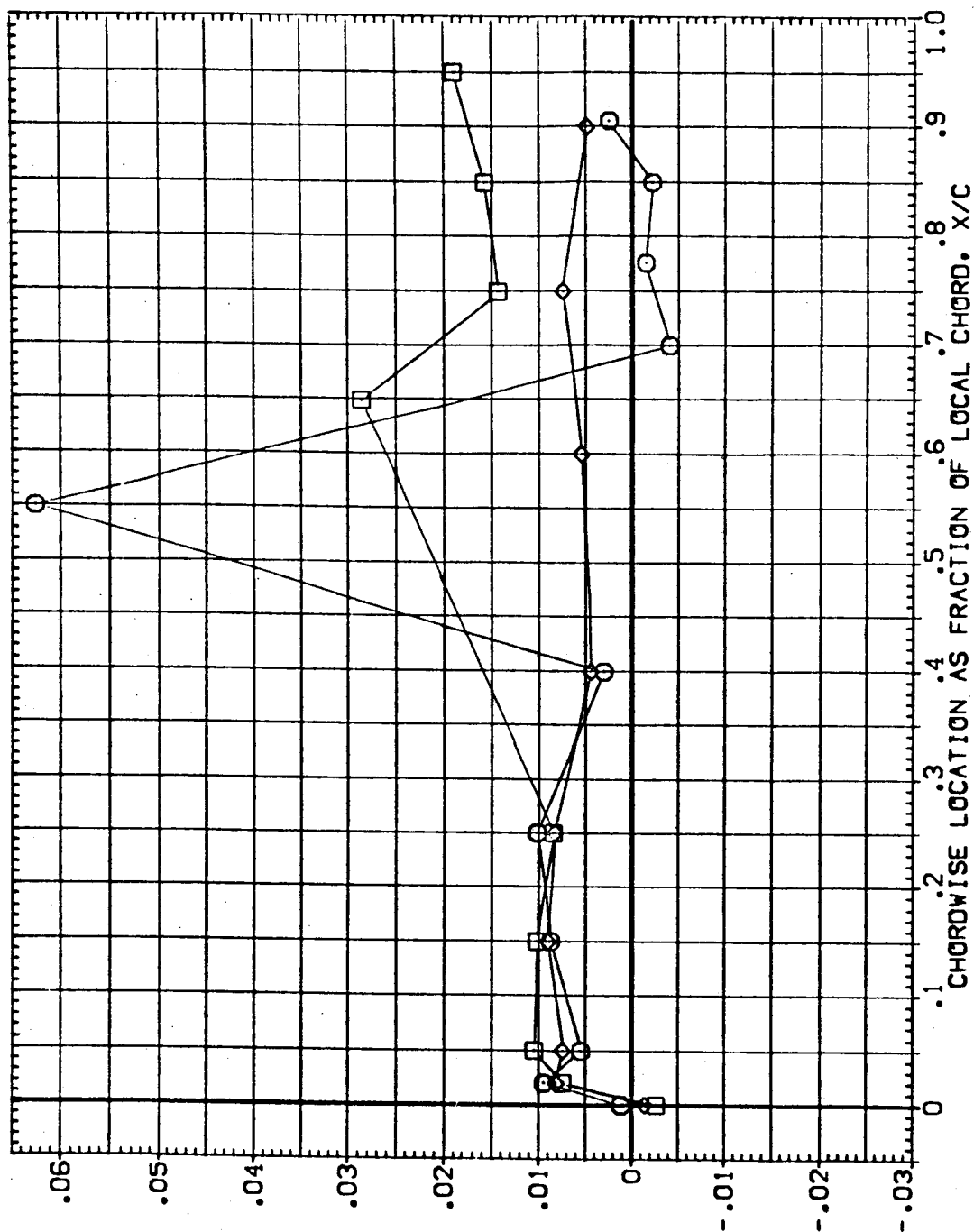


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR15)

SYMBOL	2Y/B	BETA	ALPHA	ELV-18	PARAMETRIC VALUES
○	.299	.000	-4.000	8.000	ELV-08 4.000
□	.364			.000	RUDER .000
◇	.427			1.000	MACH 1.250
△	.534				GIMBAL

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

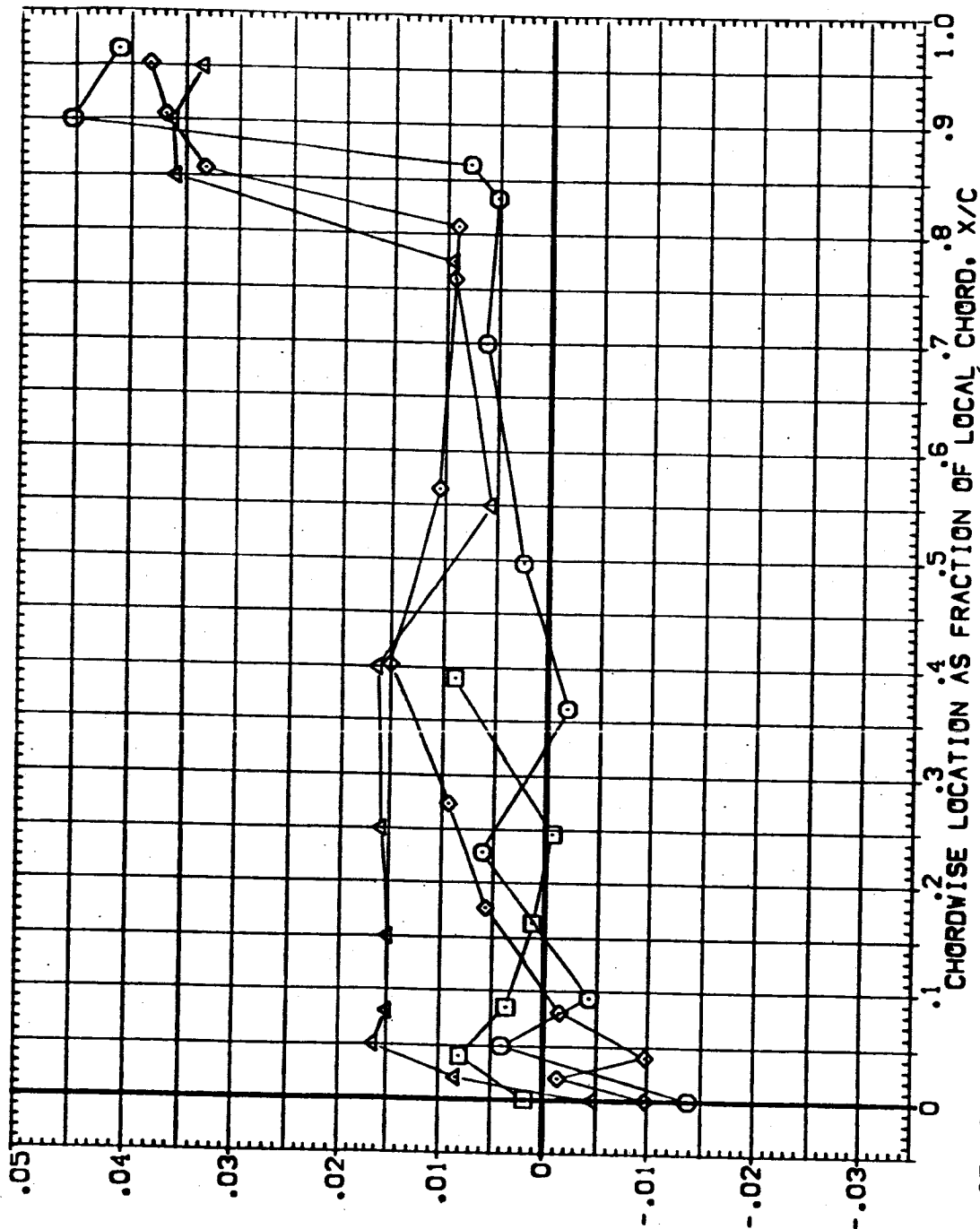


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EUR15)

SYMBOL 2N/B BETA ALPHA

◇ .641
□ .780
○ .887

PARAMETRIC VALUES
ELV-18 8.000 ELV-08 4.000
RUDDER .000 MACH 1.250
GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

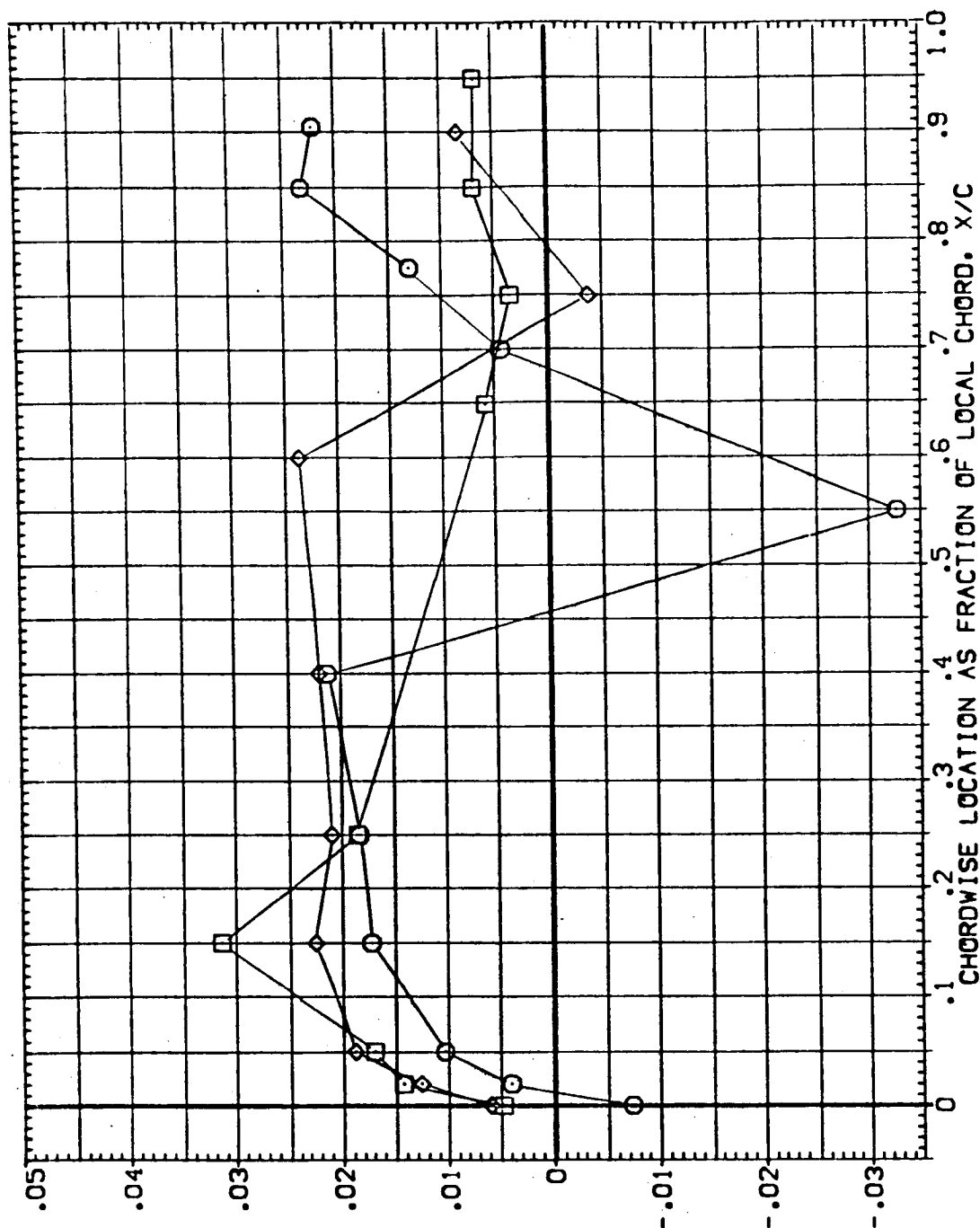


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR15)

SYMBOL	Z ₁ /B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-00	MACH
○	.299	.000	.000	ELV-18	ELV-08	ELV-00	MACH
□	.364	.000	.000	RUDER	RUDER	RUDER	MACH
◇	.427	.000	.000	01MBAL	01MBAL	01MBAL	MACH
△	.534	.000	.000	01MBAL	01MBAL	01MBAL	MACH

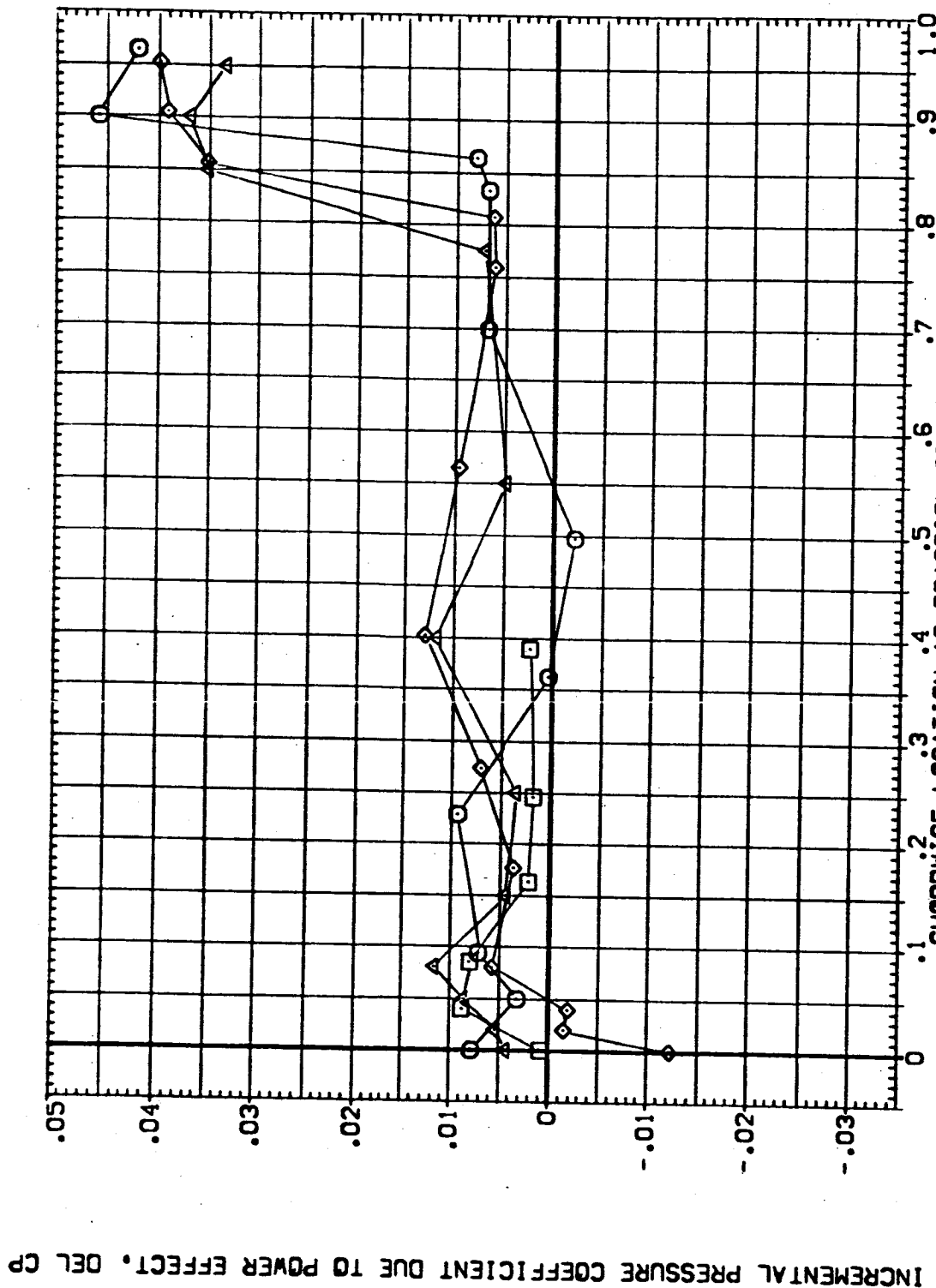


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL 2Y/8 BETA ALPHA
 ○ .641 .000
 □ .780 .000
 ◇ .887 .000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

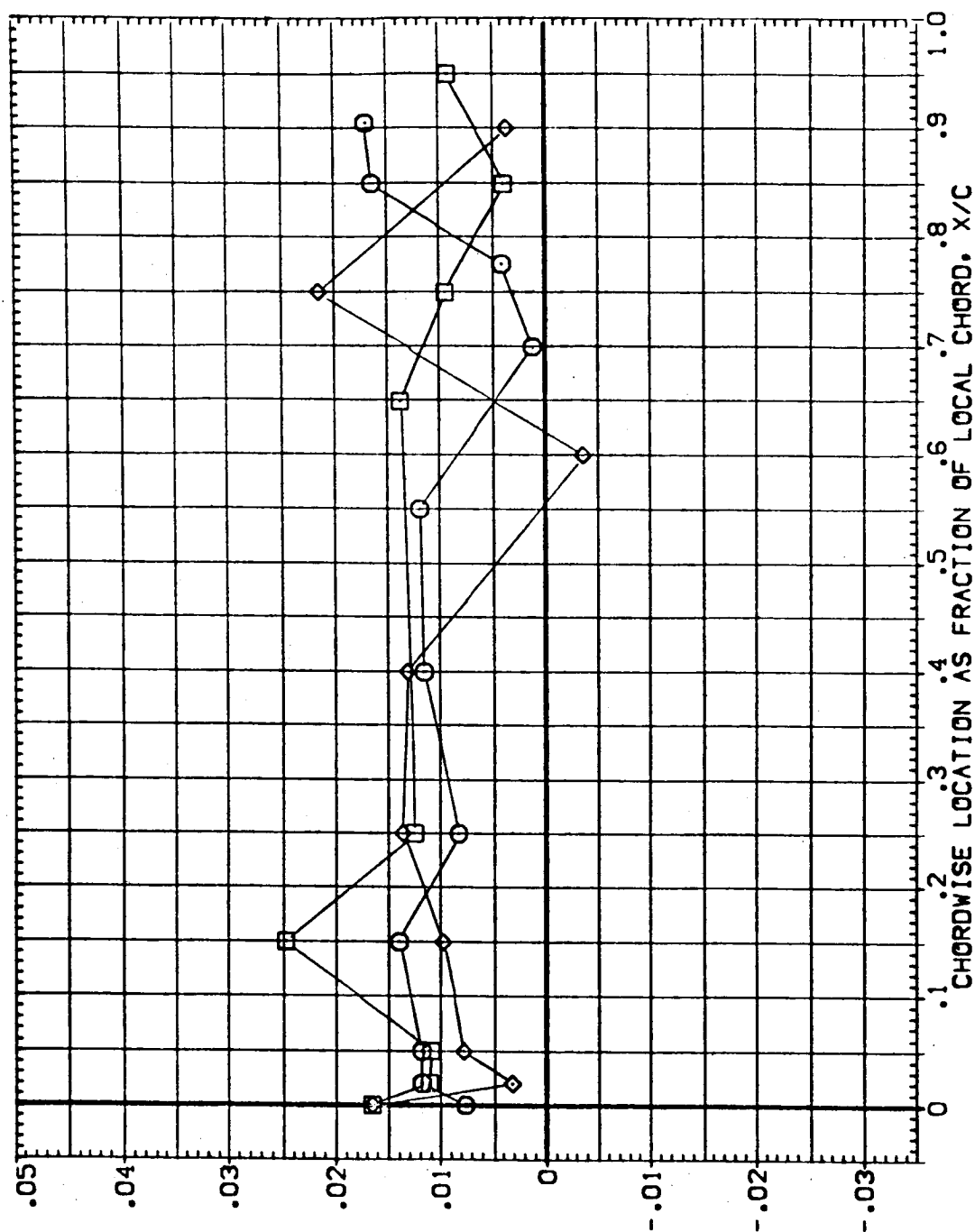


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR15)

SYMBOL	2N/8	BETA	ALPHA	ELV-18	ELV-08	PARAMETRIC VALUES
○	.299	.000	4.000	ELDER	.000	MACH
◇	.364			GIMBAL	1.000	
□	.427					
△	.534					

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

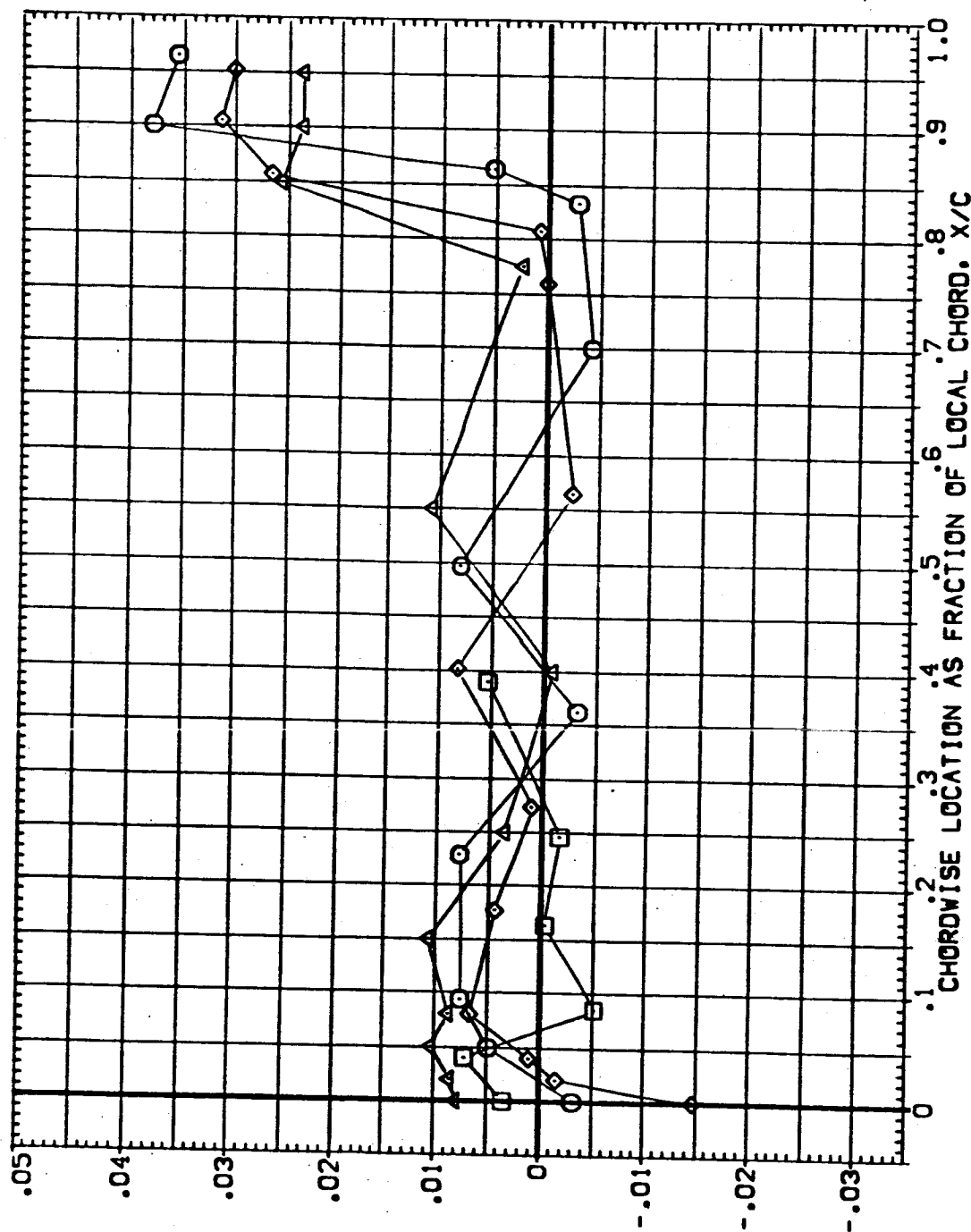


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

SYMBOL ZN/B BETA ALPHA

□ .641 .000 4.000

○ .780 .000 4.000

◇ .887 .000 4.000

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.250

GINBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

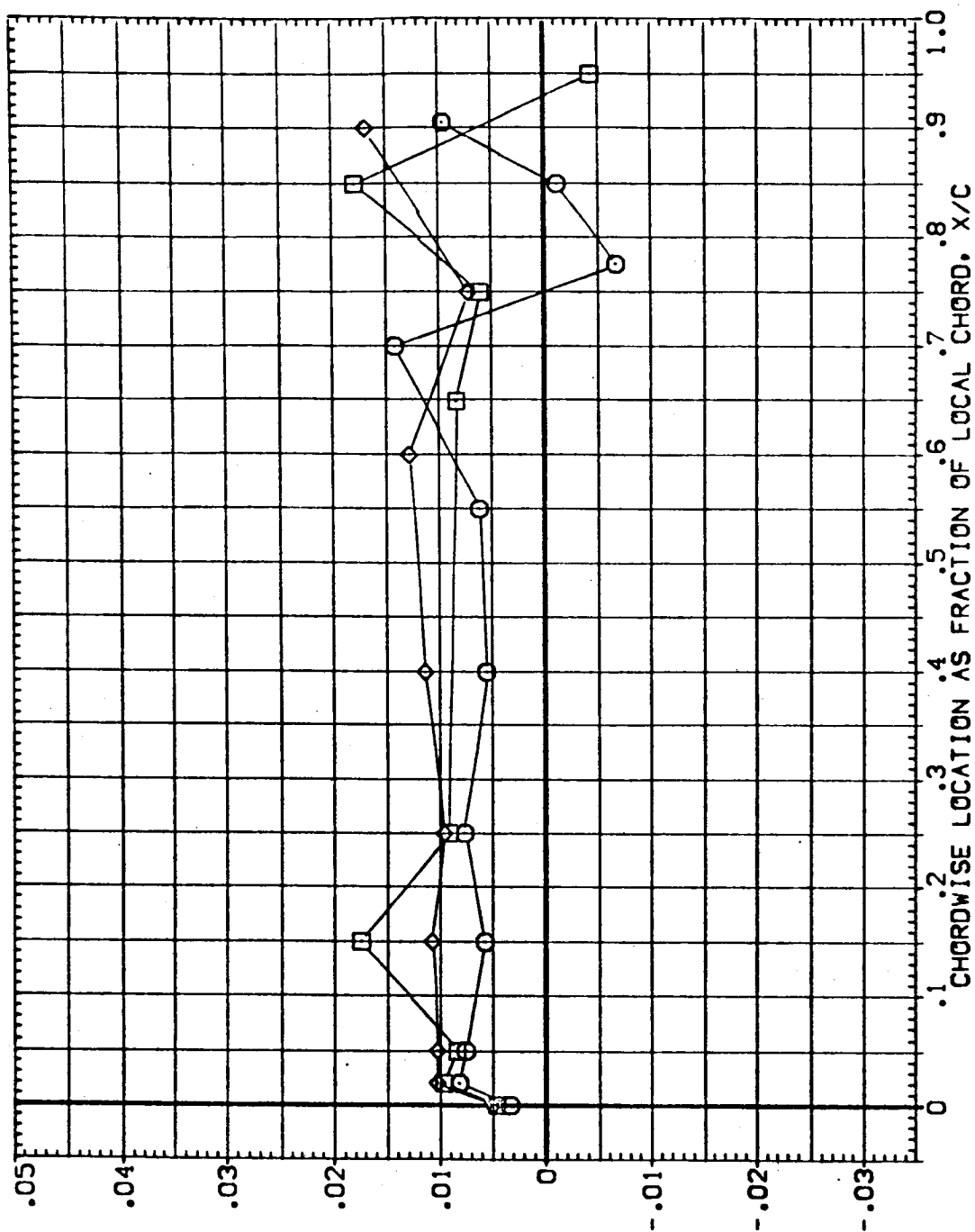


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR15)

SYMBOL	ZY/B	BETA	ALPHA	ELV-18	ELV-08	MACH	PARAMETRIC VALUES
◇	.299	-1.000	.000	RUDER	8.000	1.000	4.000
□	.361			GINBAL	.000	1.250	
◇	.427						
◇	.531						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

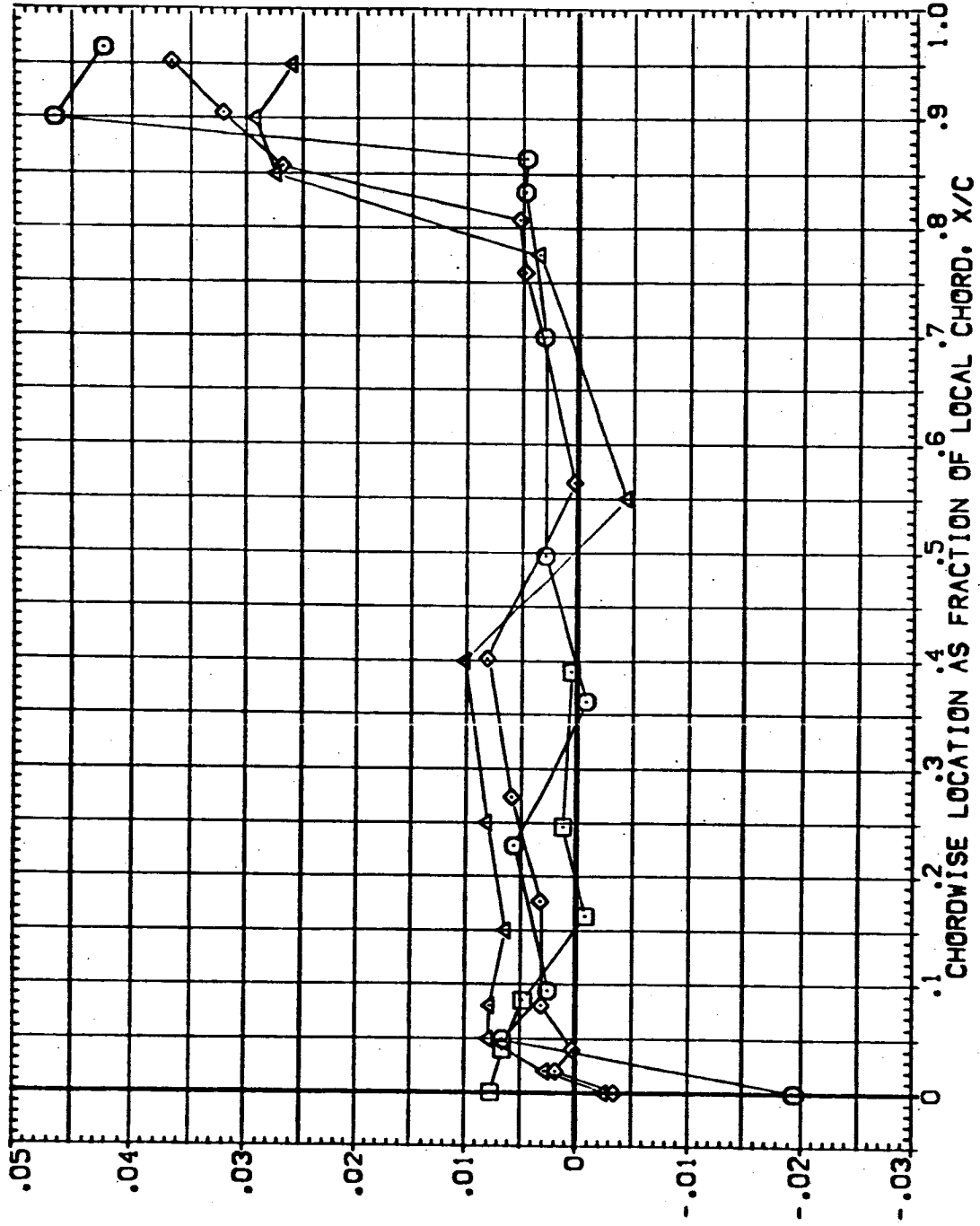


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR15)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL 2V/B BETA ALPHA
 ○ .641 -4.000 .000
 □ .780
 ◇ .807

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

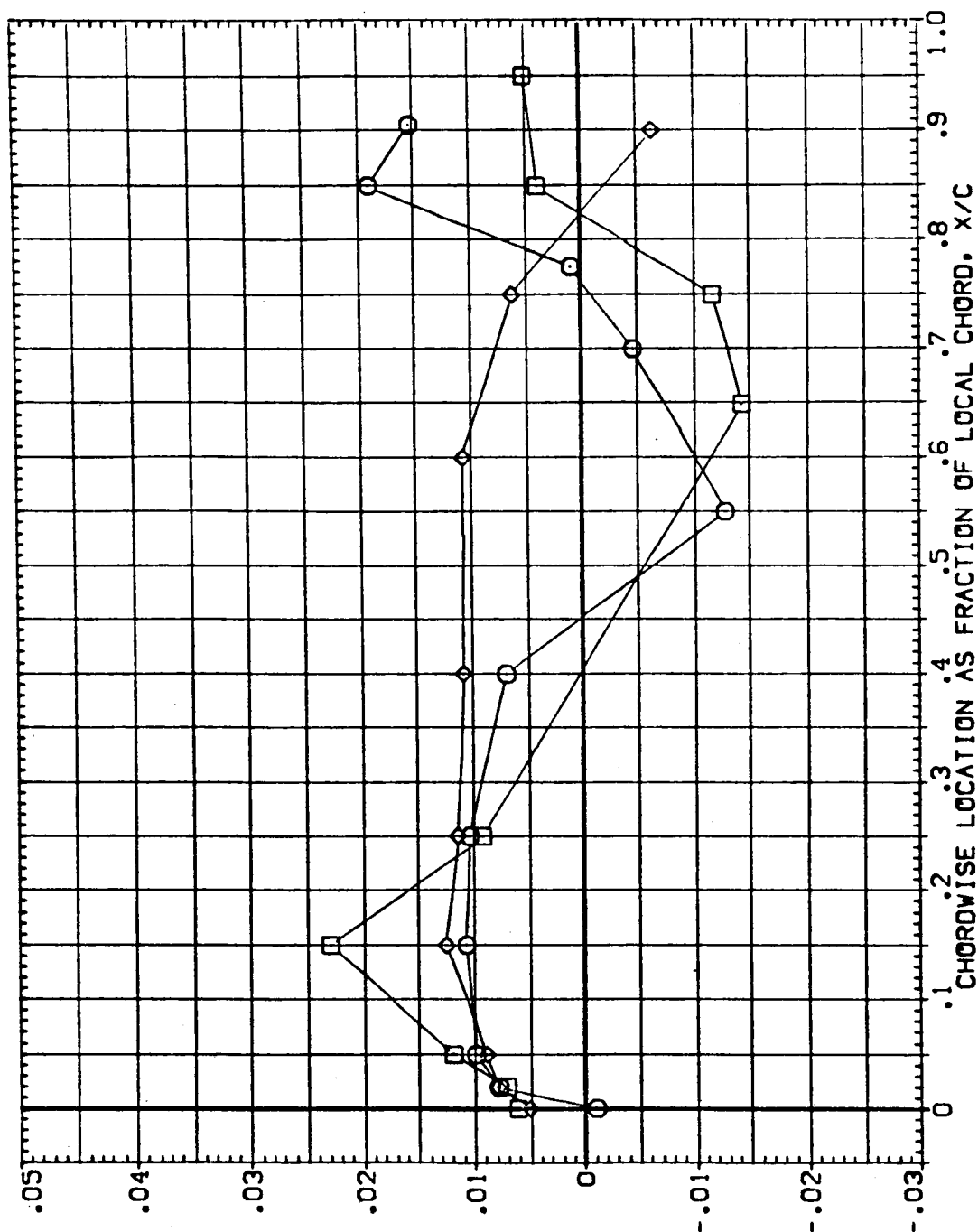


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR15)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.299	1.000	.000	RUDER	.000	1.000	4.000
□	.364			GIMBAL	1.000		1.250
◇	.427						
△	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

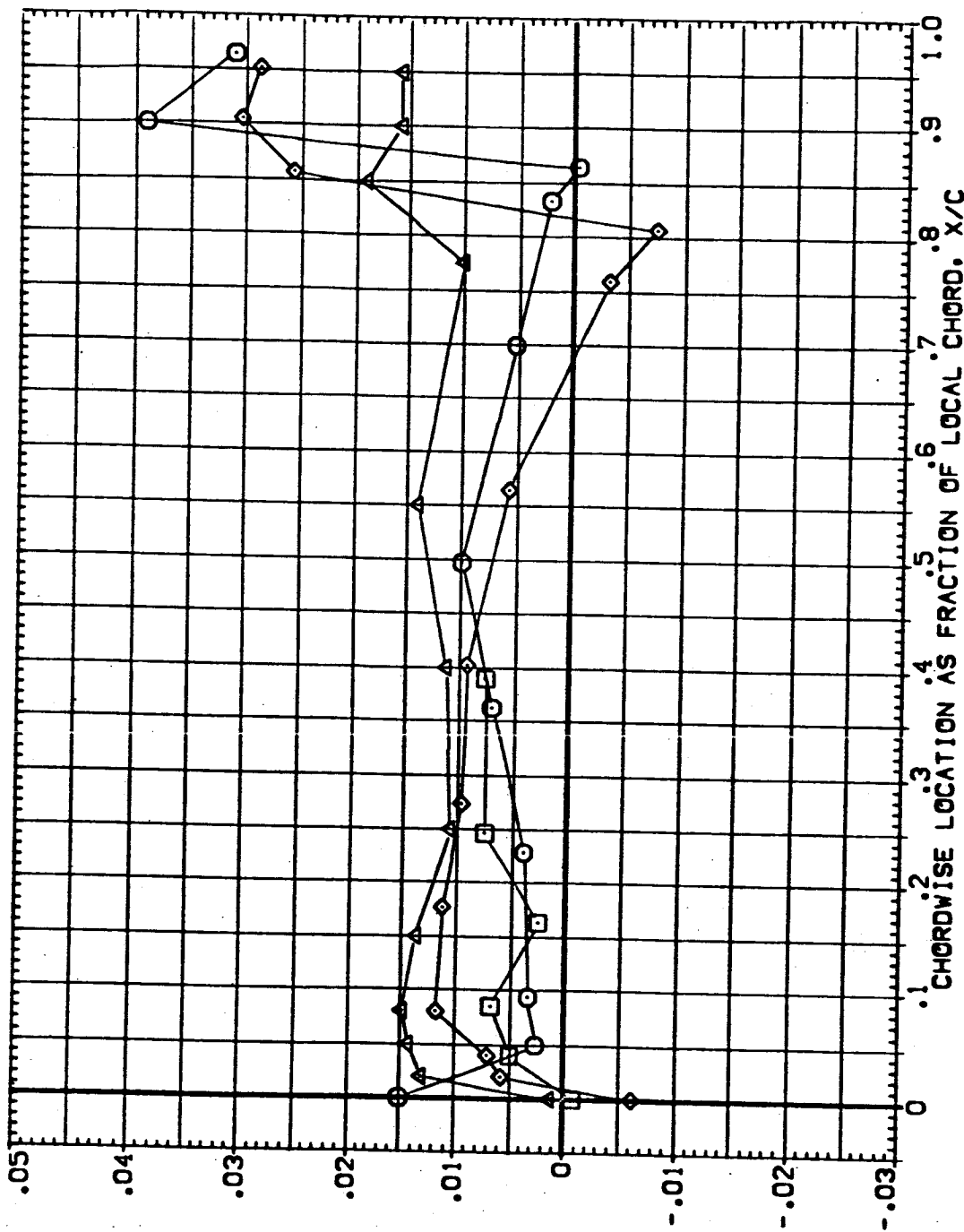


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR15)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL 2V/B BETA ALPHA
 .641
 .780
 .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

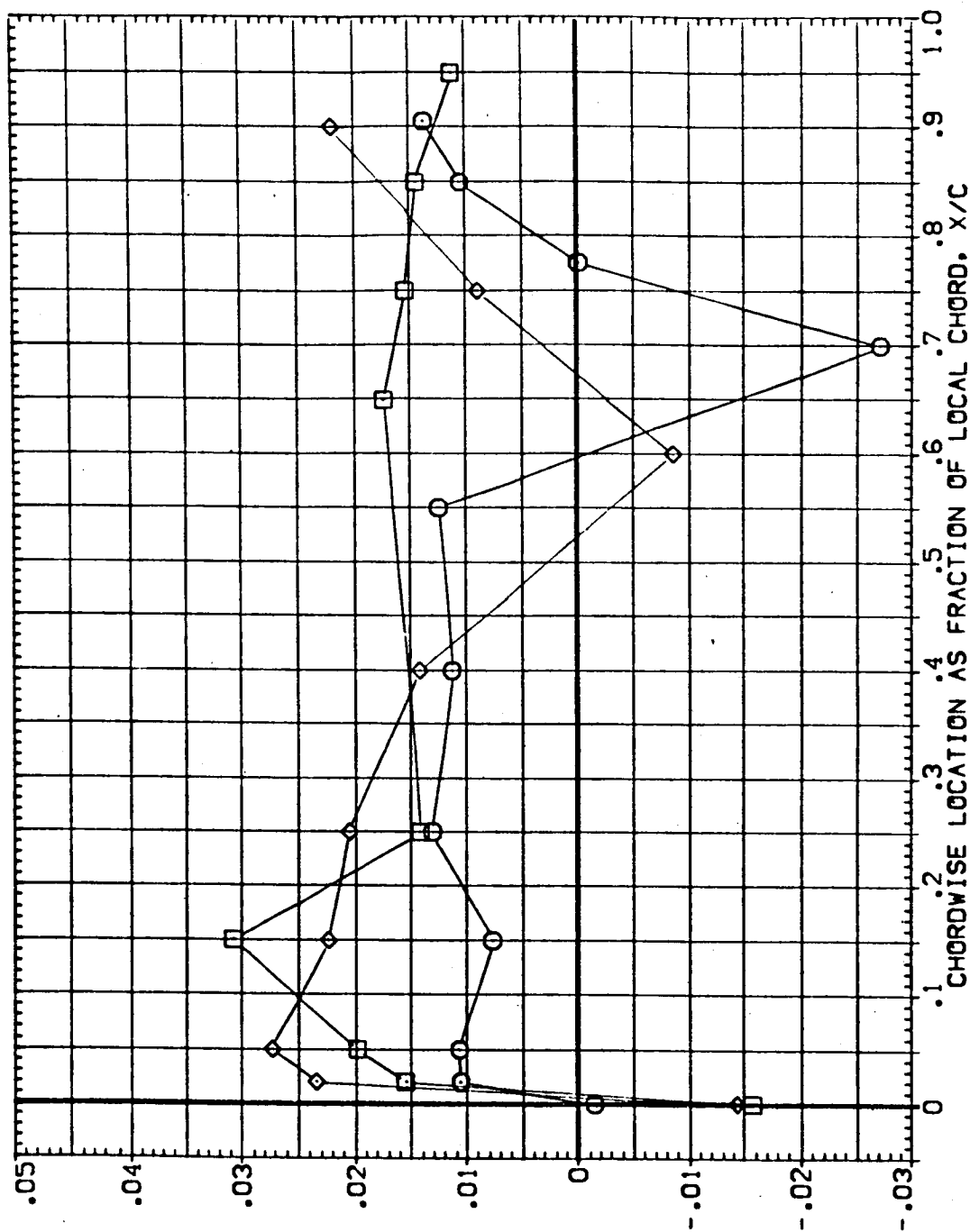


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR16)

SYMBOL 21/B BETA ALPHA

○ .299 .000 -4.000

□ .364 .000 -4.000

◇ .427 .000 -4.000

△ .534 .000 -4.000

PARAMETRIC VALUES

ELV-18 9.000 ELV-08 4.000

RUDER .000 MACH 1.400

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

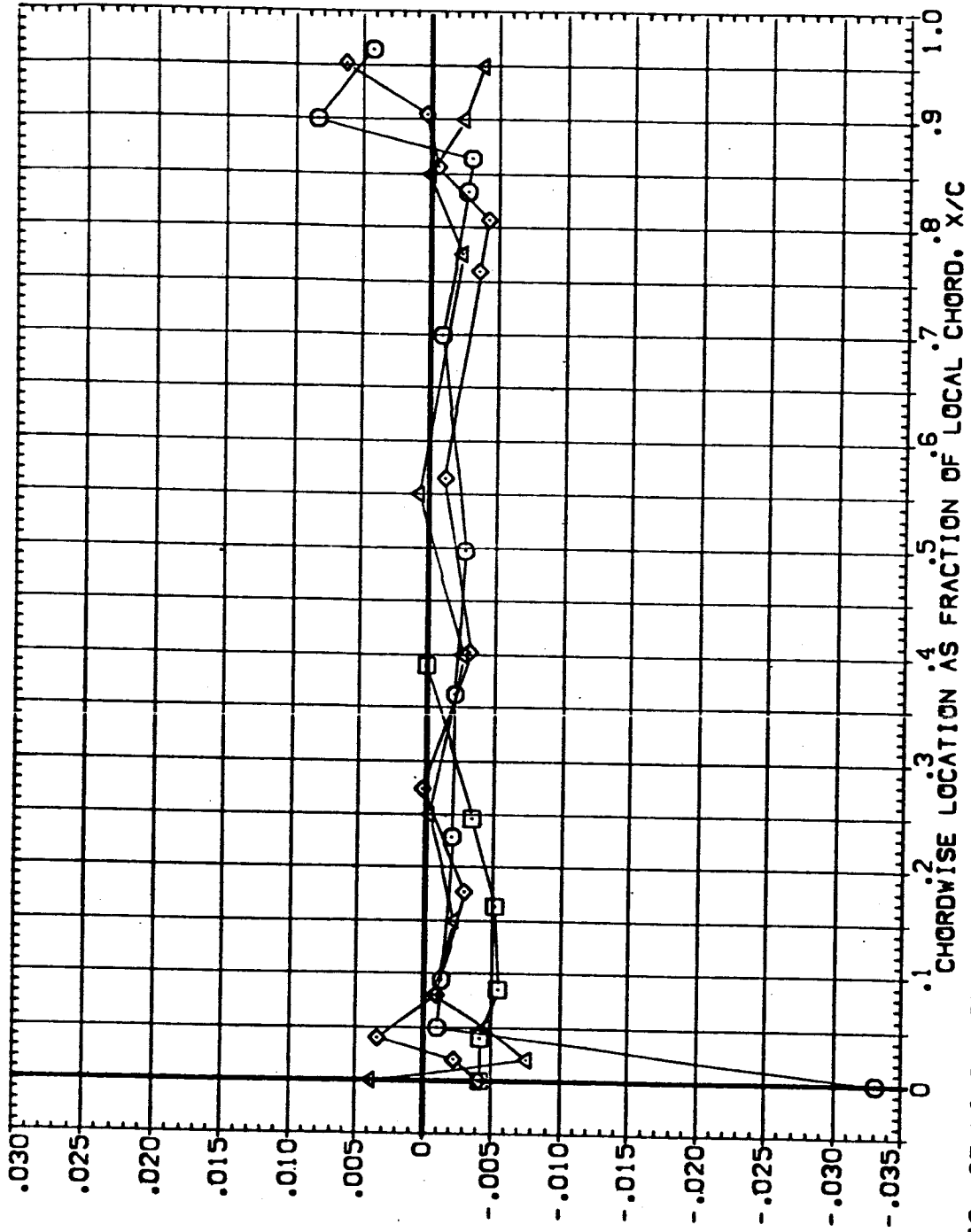


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ○ .641 .000 -4.000
 □ .780 .000 -4.000
 ◇ .887 .000 -4.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

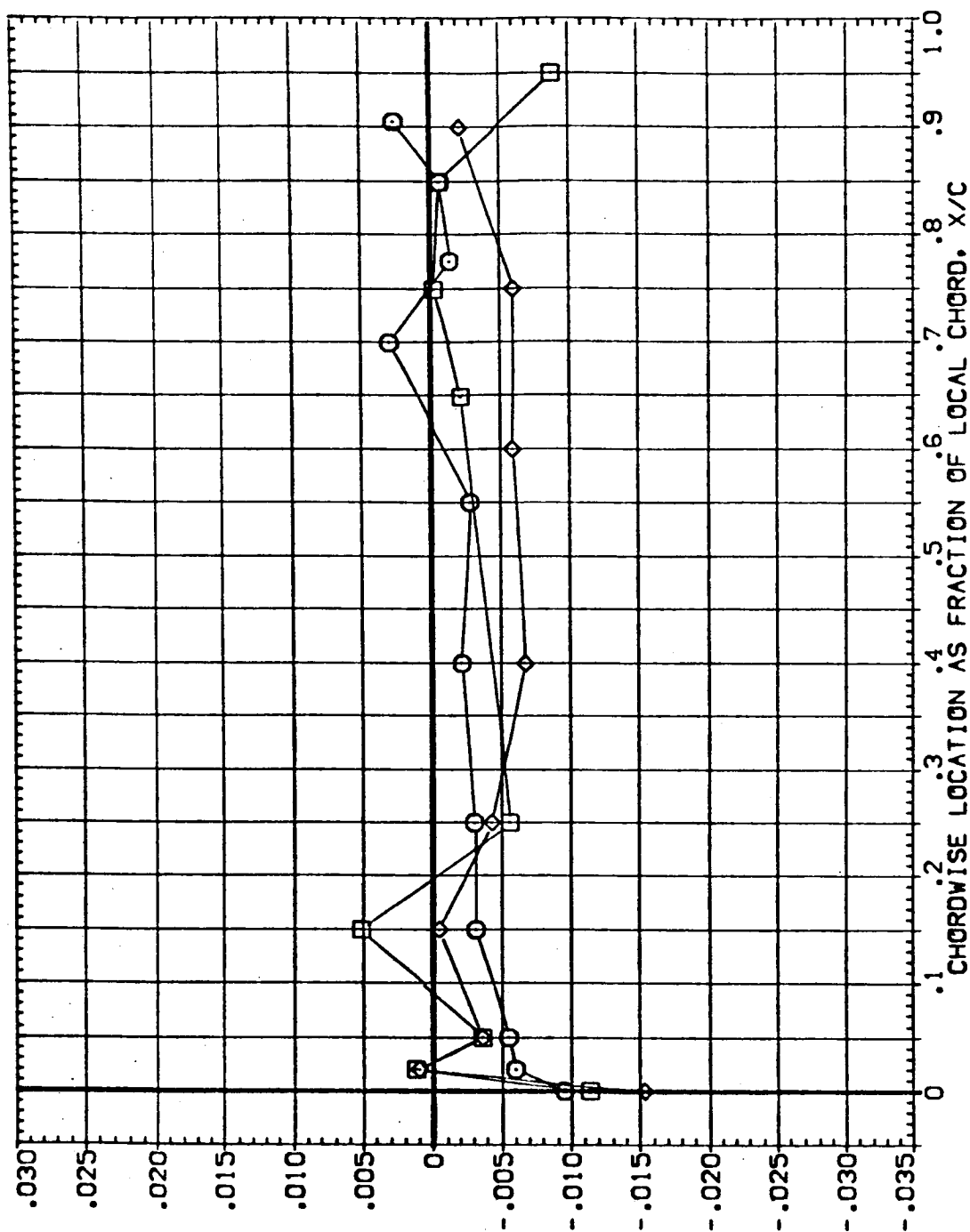


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EUR16)

SYMBOL	2N/8	BETA	ALPHA	ELV-18	ELV-08	PARAMETRIC VALUES
○	.299	.000	.000	RUDER	.000	8.000
□	.364	.000	.000	GIMBAL	1.000	1.400
◇	.427					
△	.534					

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

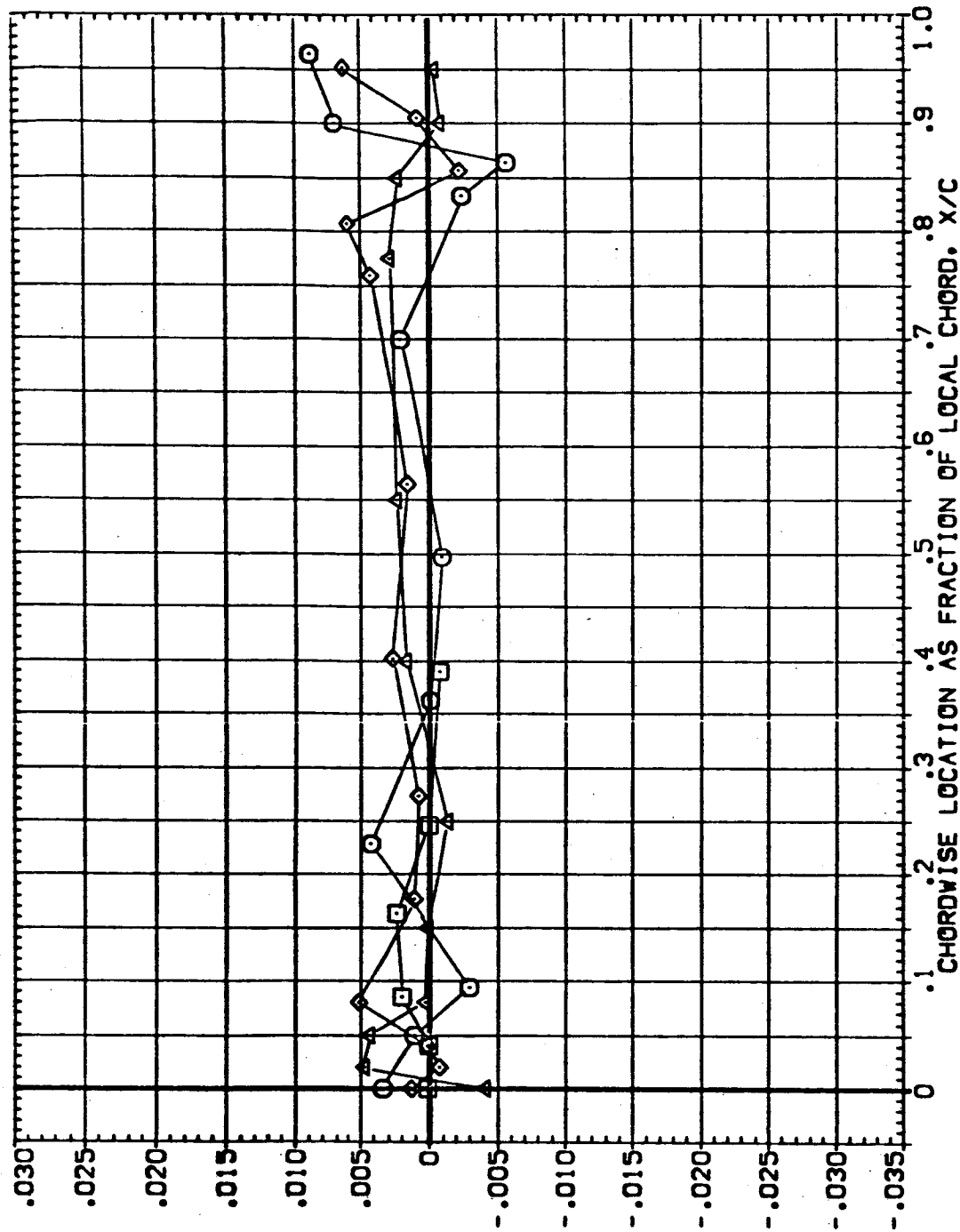


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR16)

SYMBOL	2N/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.641	.000	.000	RUDER	.000	1.000	1.000
□	.780			GIMBAL	1.000		
◇	.687						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

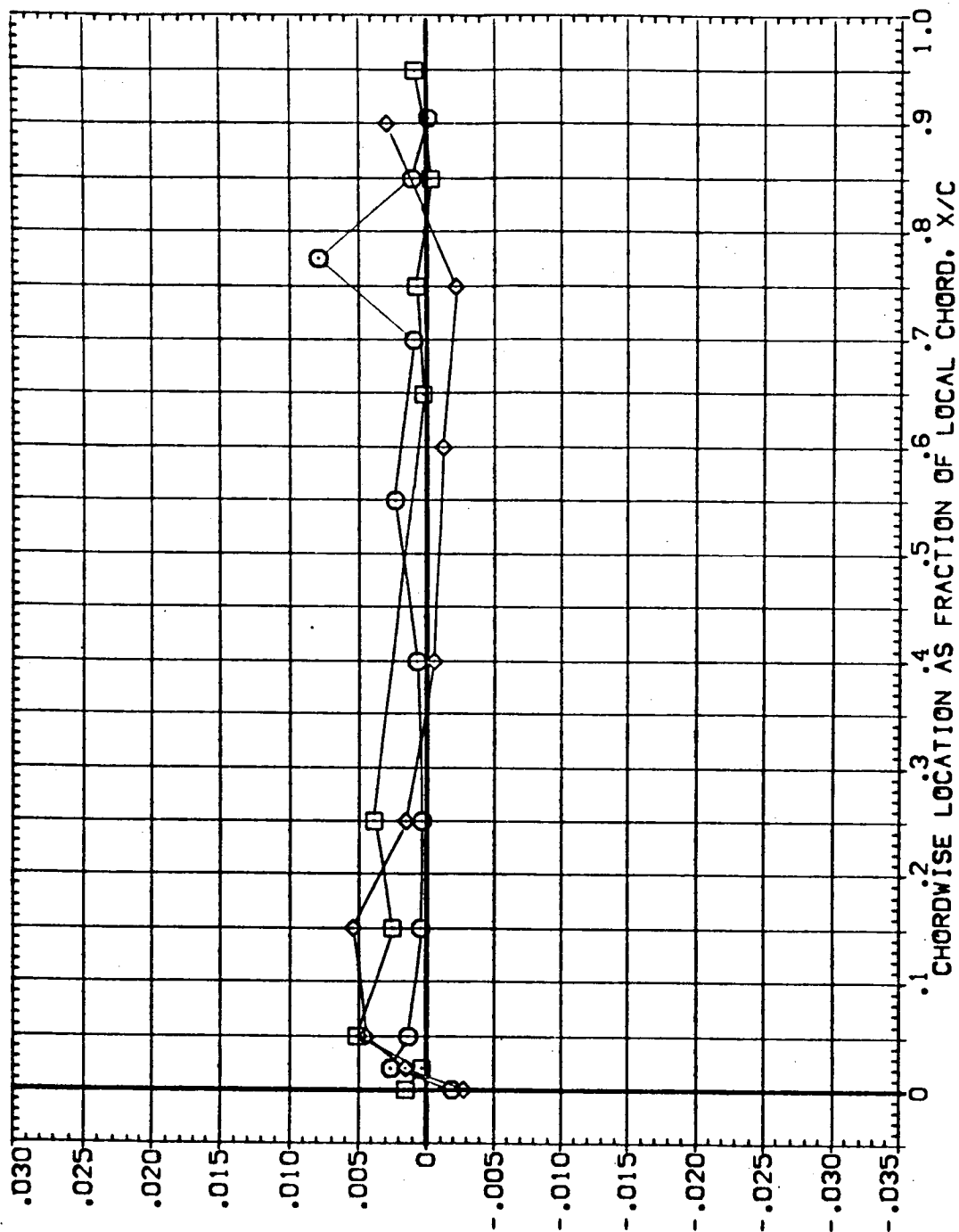


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR16)

SYMBOL 2Y/B BETA ALPHA

○ .299 .000 4.000

□ .354 .000 4.000

◇ .427 .000 4.000

△ .534 .000 4.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.400

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

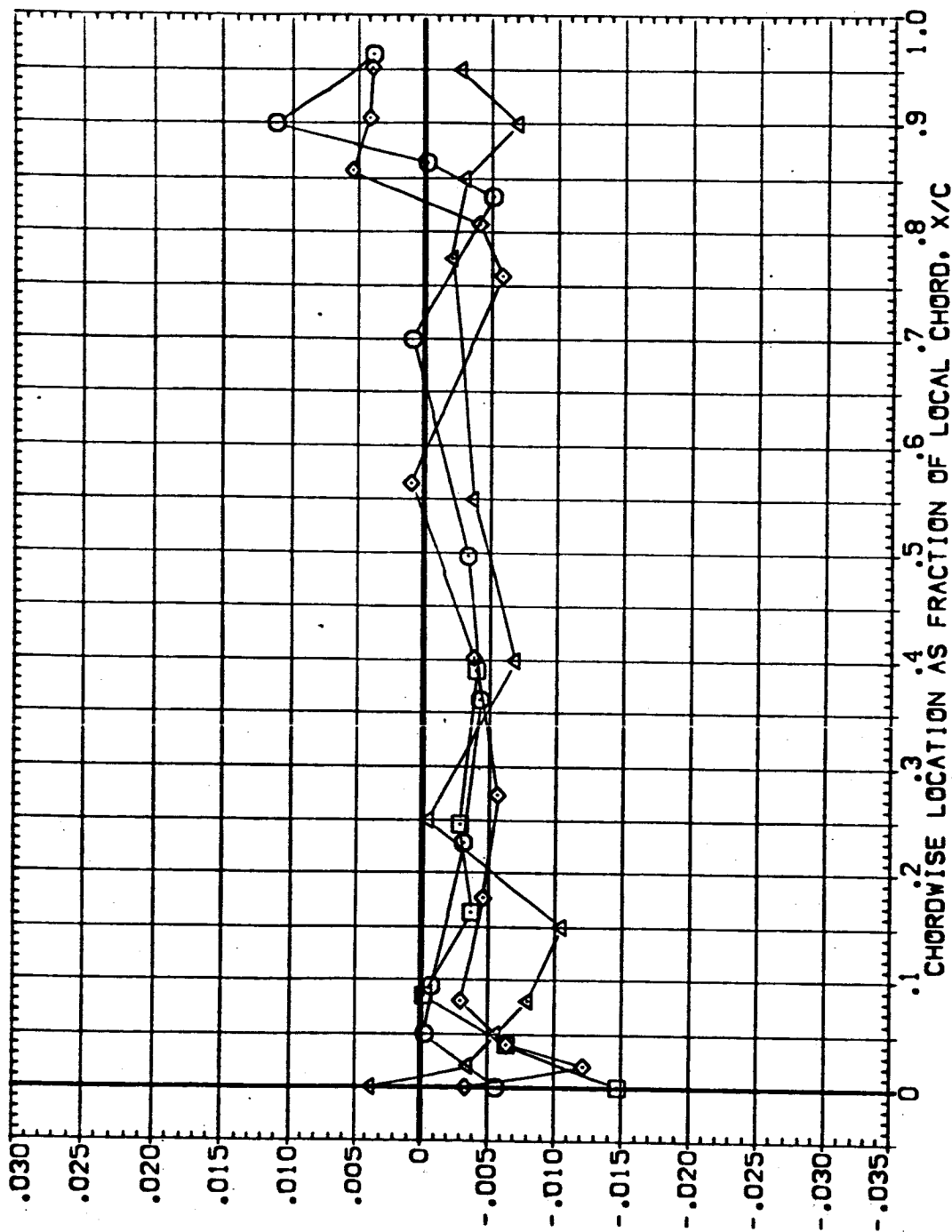


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(EEUR16)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.641	.000	4.000	RUDER	.000	MACH	1.400
□	.780			GIMBAL	1.000		
◇	.887						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

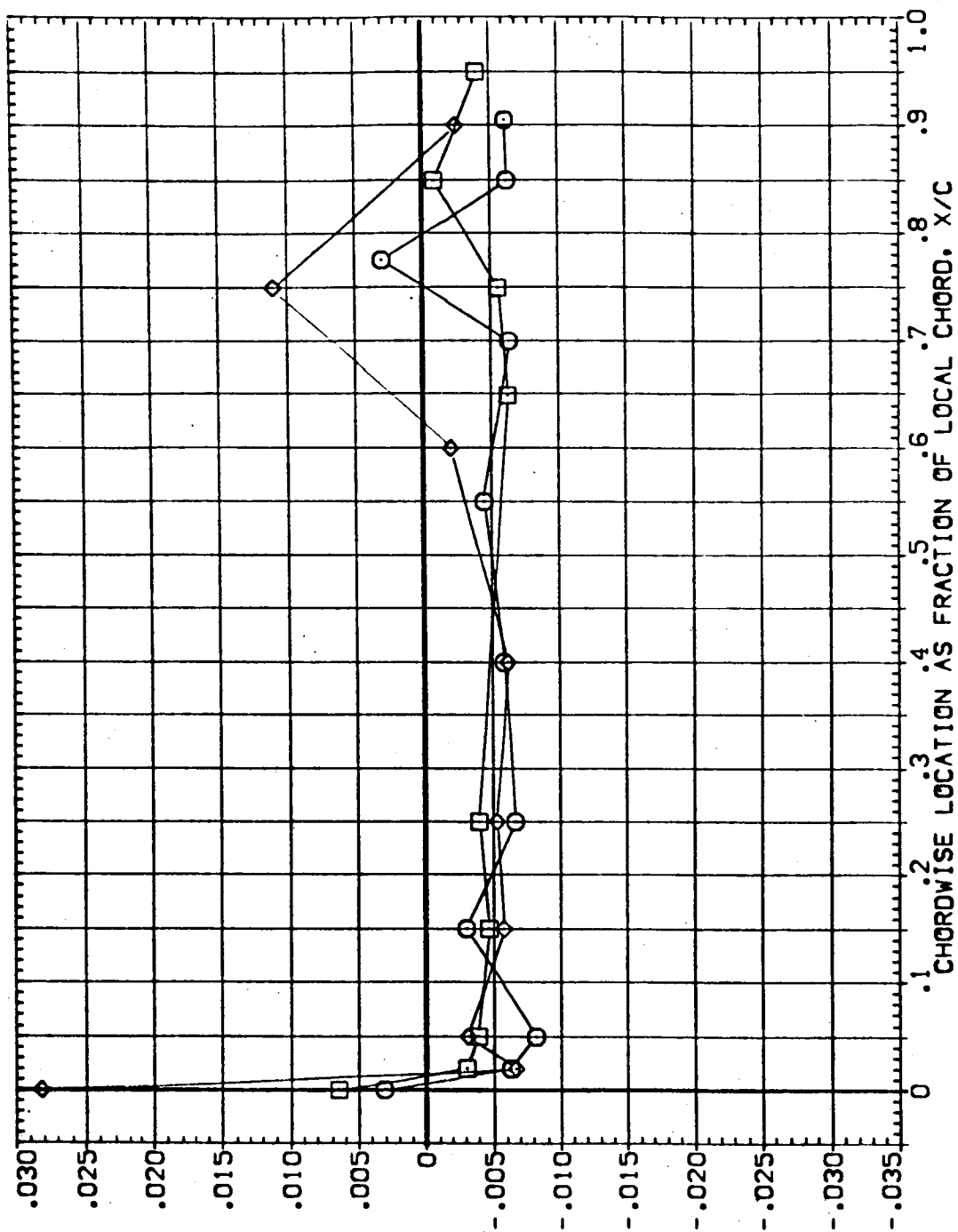


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR16)

SYMBOL 21/8 BETA ALPHA

◇ .299 -1.000 .000

□ .364

○ .427

△ .534

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.400

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

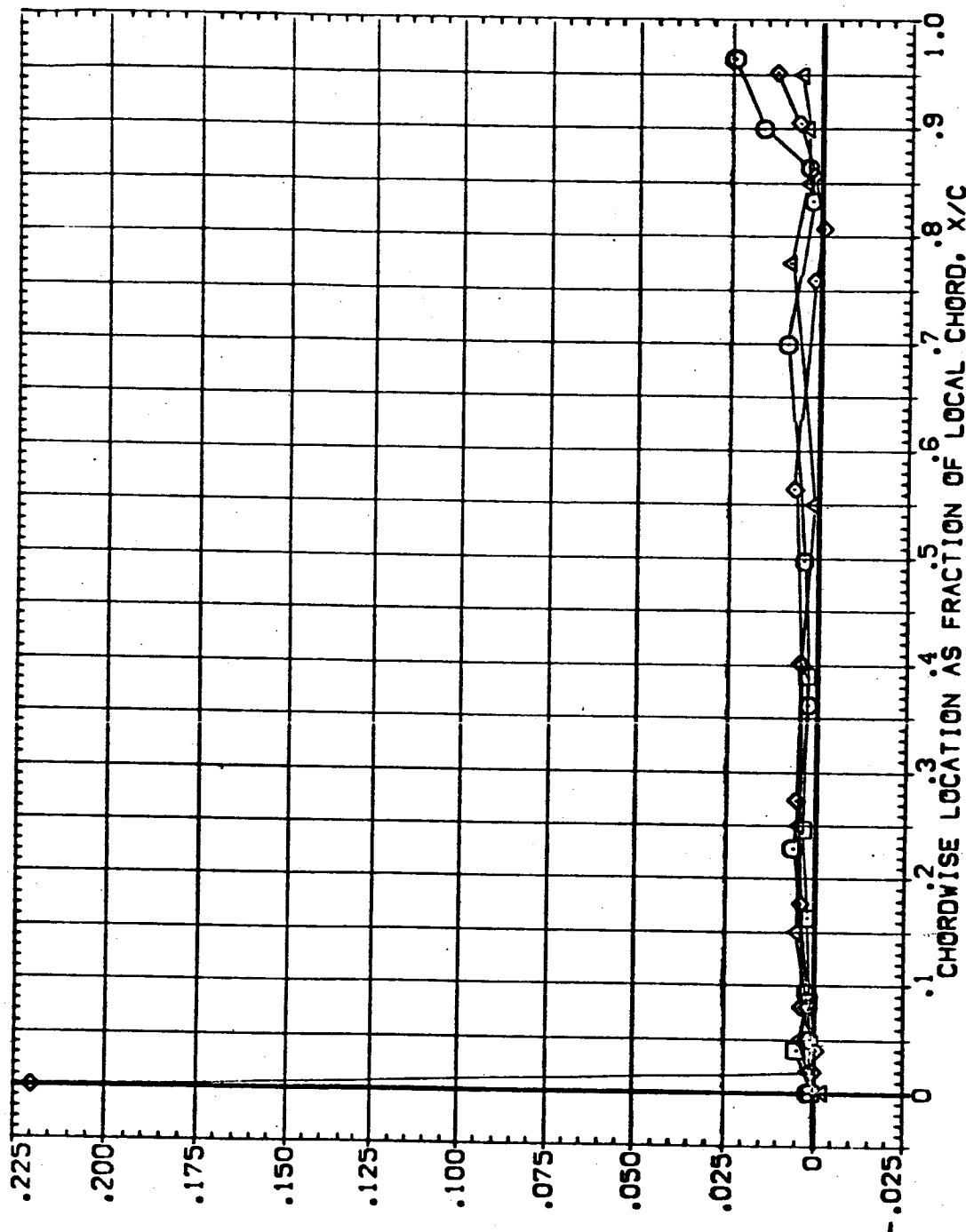


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR16)

SYMBOL 2V/B BETA ALPHA
 ○ .641
 □ .780
 ◇ .887

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

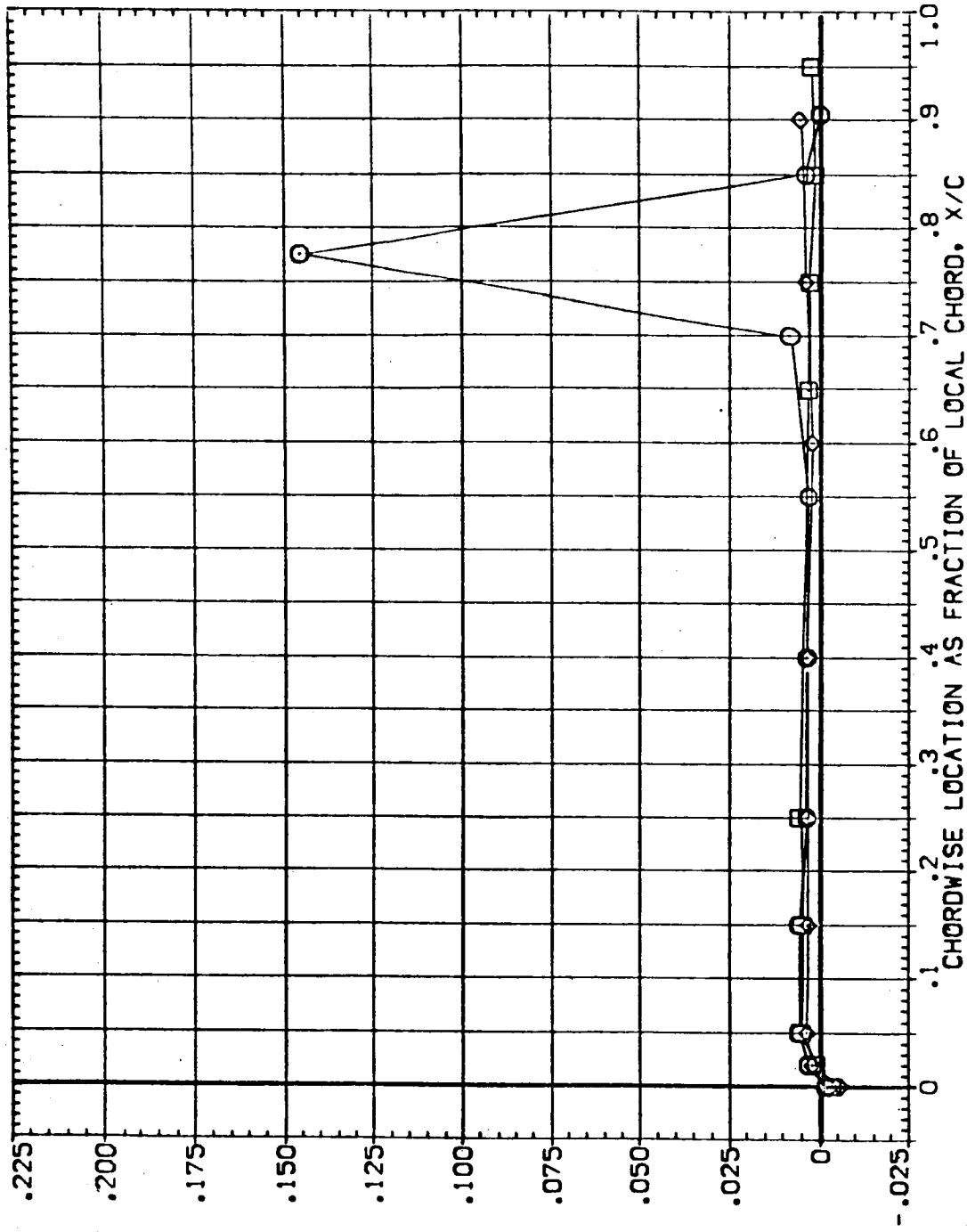


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR16)

SYMBOL	Z _{Y/B}	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.299	4.000	.000	RUDER	.000	MACH	1.400
◇	.364			GIMBAL	1.000		
△	.427						
×	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

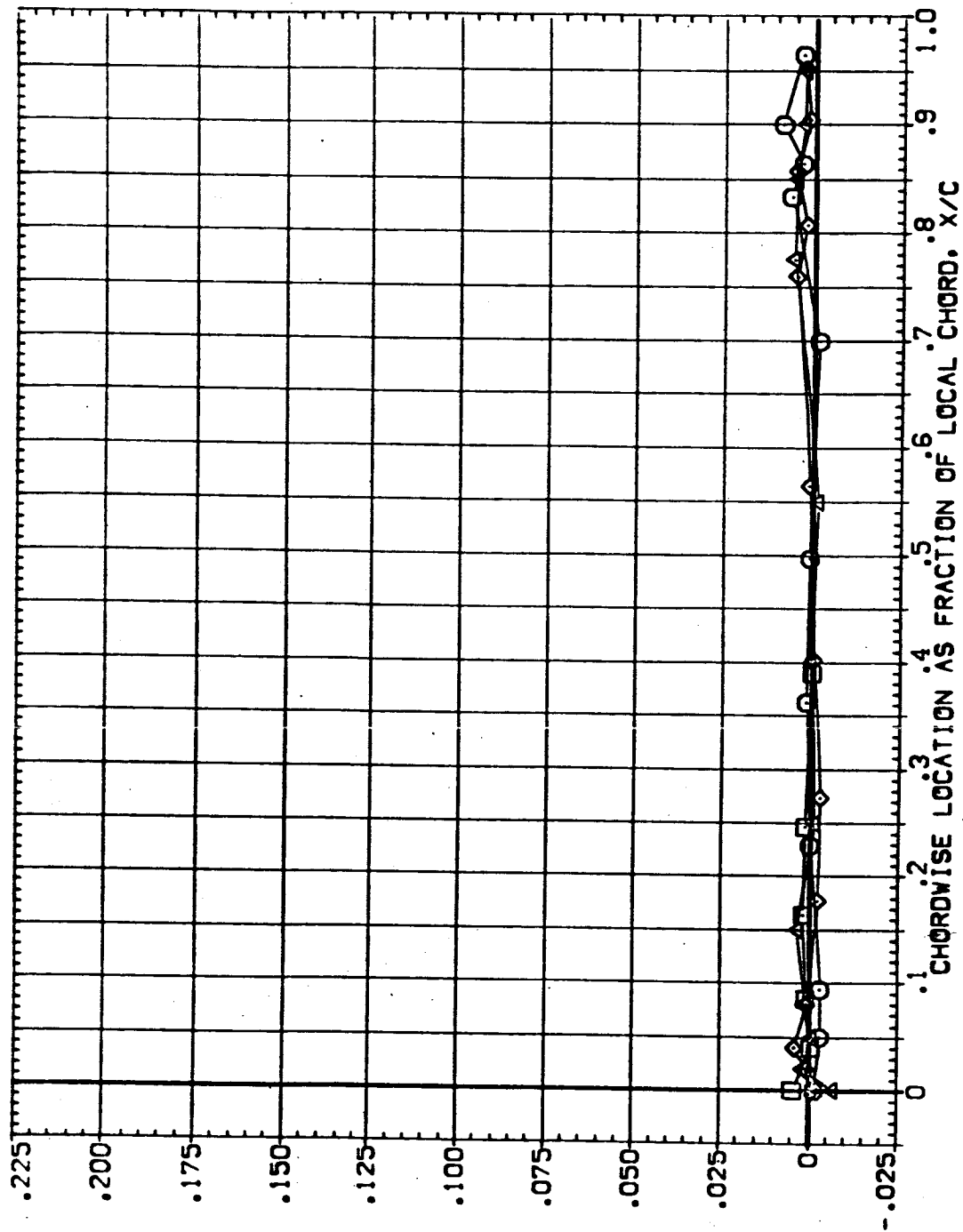


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF TOP WING(FEUR16)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ○ .641 4.000 .000
 □ .780
 ◇ .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

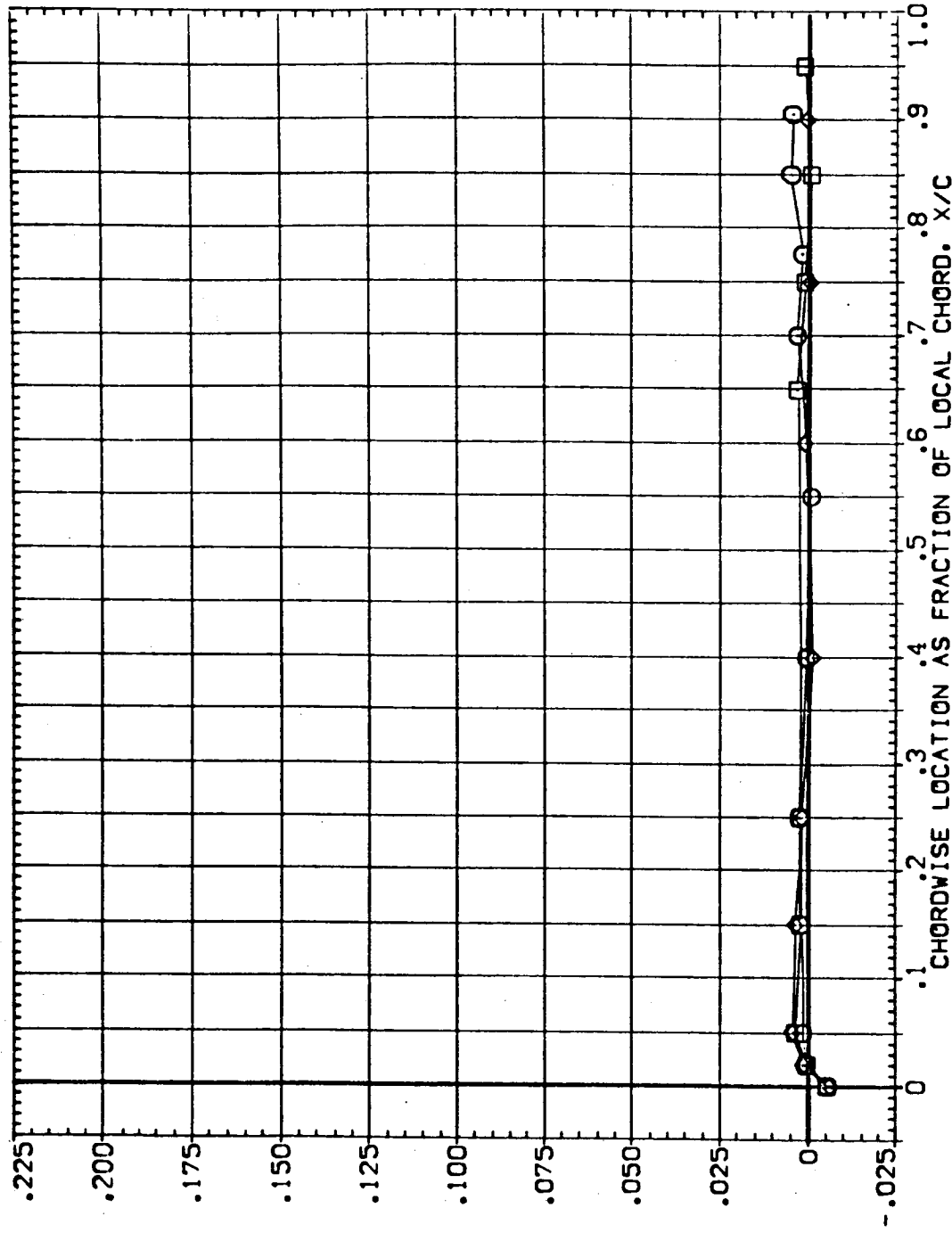


FIG. 95 WING UPPER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW01)

SYMBOL	2 γ /B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
○	.299	.000	-4.000	RUDER	.000	1.000	.900
□	.364			GIMBAL			
◇	.427						
△	.534						

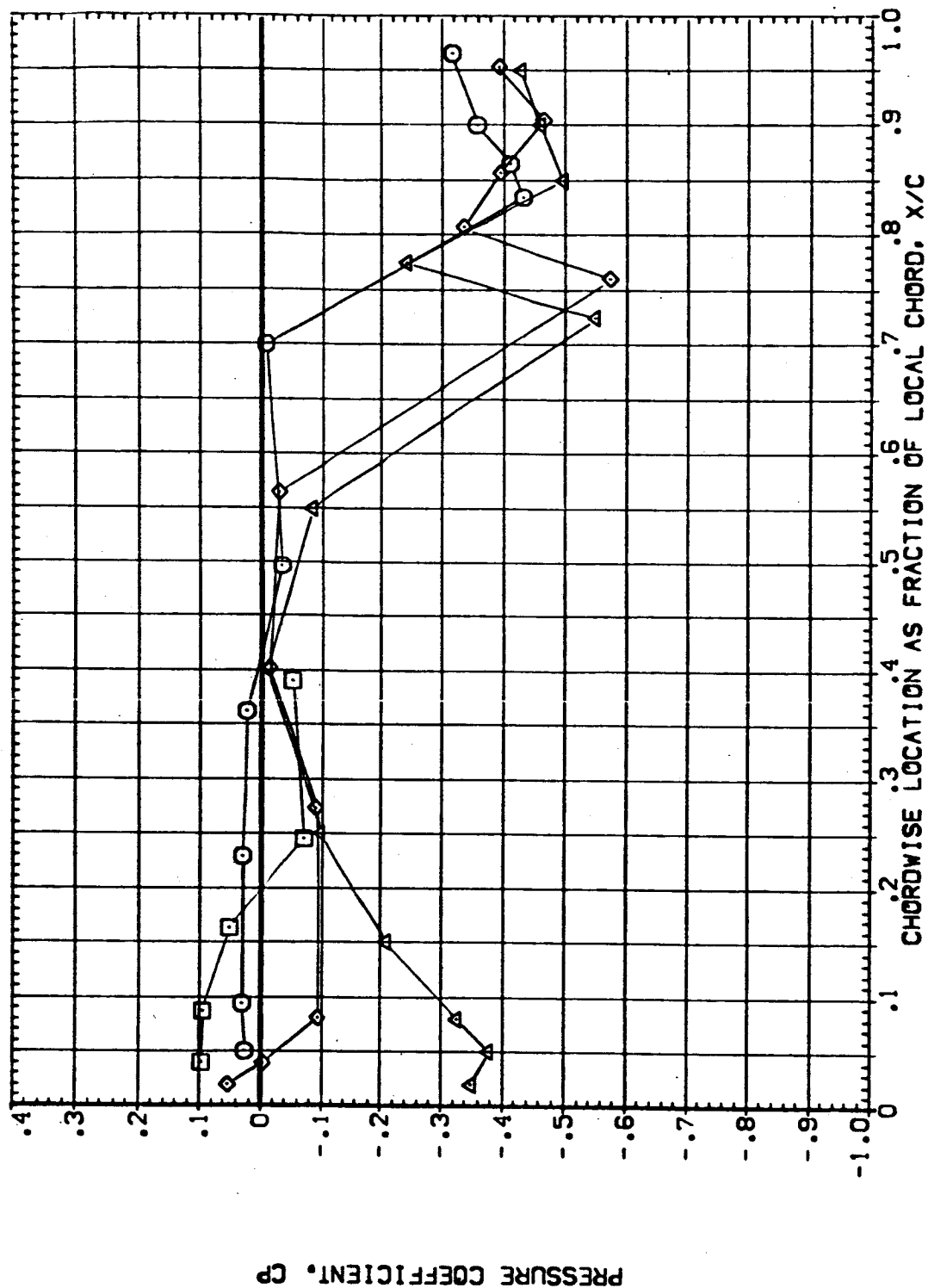


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW01)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL $2\gamma/8$ BETA ALPHA
 ○ .641
 □ .780
 ◇ .887

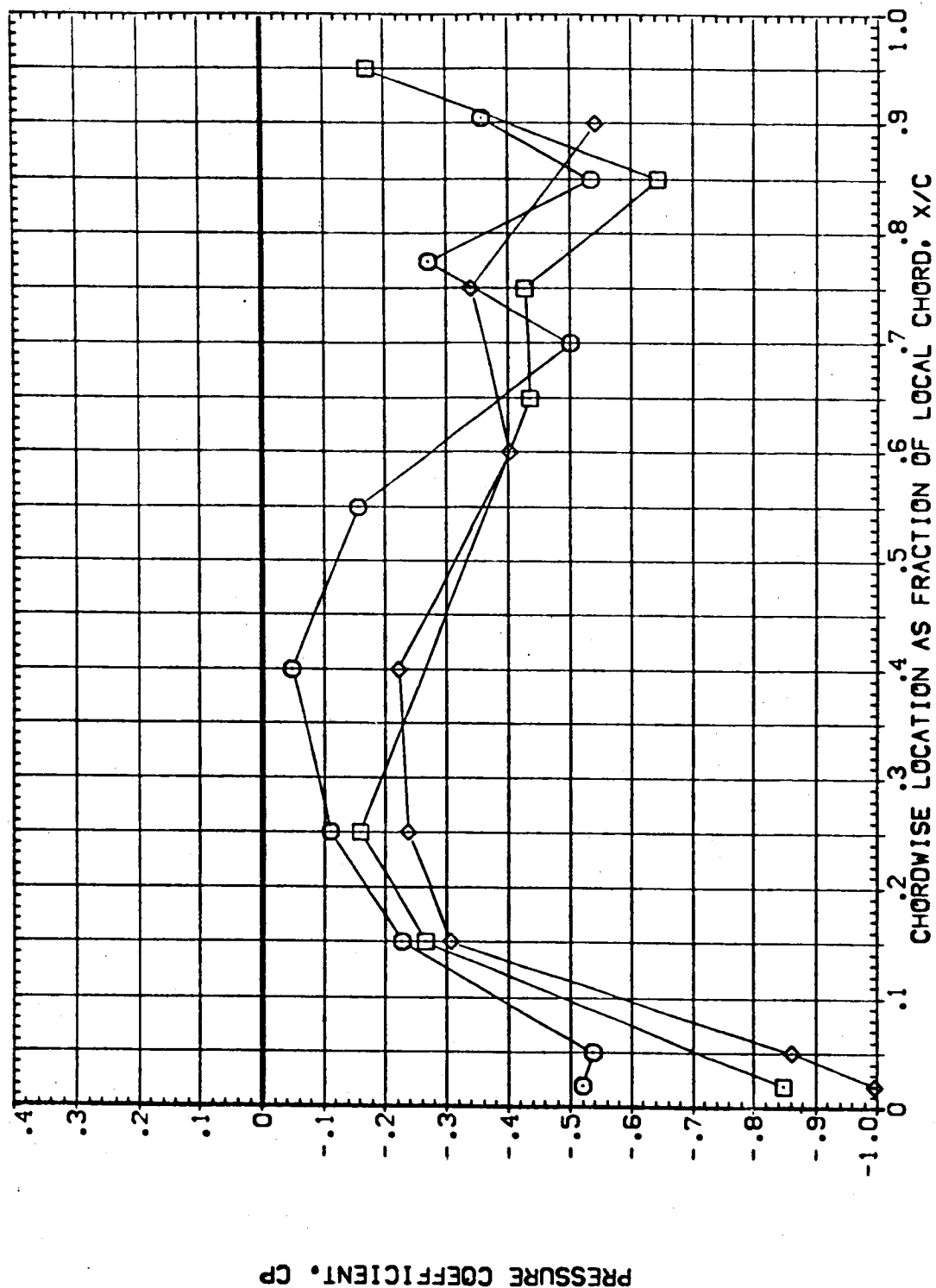


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW01)

SYMBOL	2 γ /8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.299	.000	.000	RUDER	.000	1.000	4.000
□	.364	.000	.000	GIMBAL	1.000		.900
◇	.427						
△	.534						

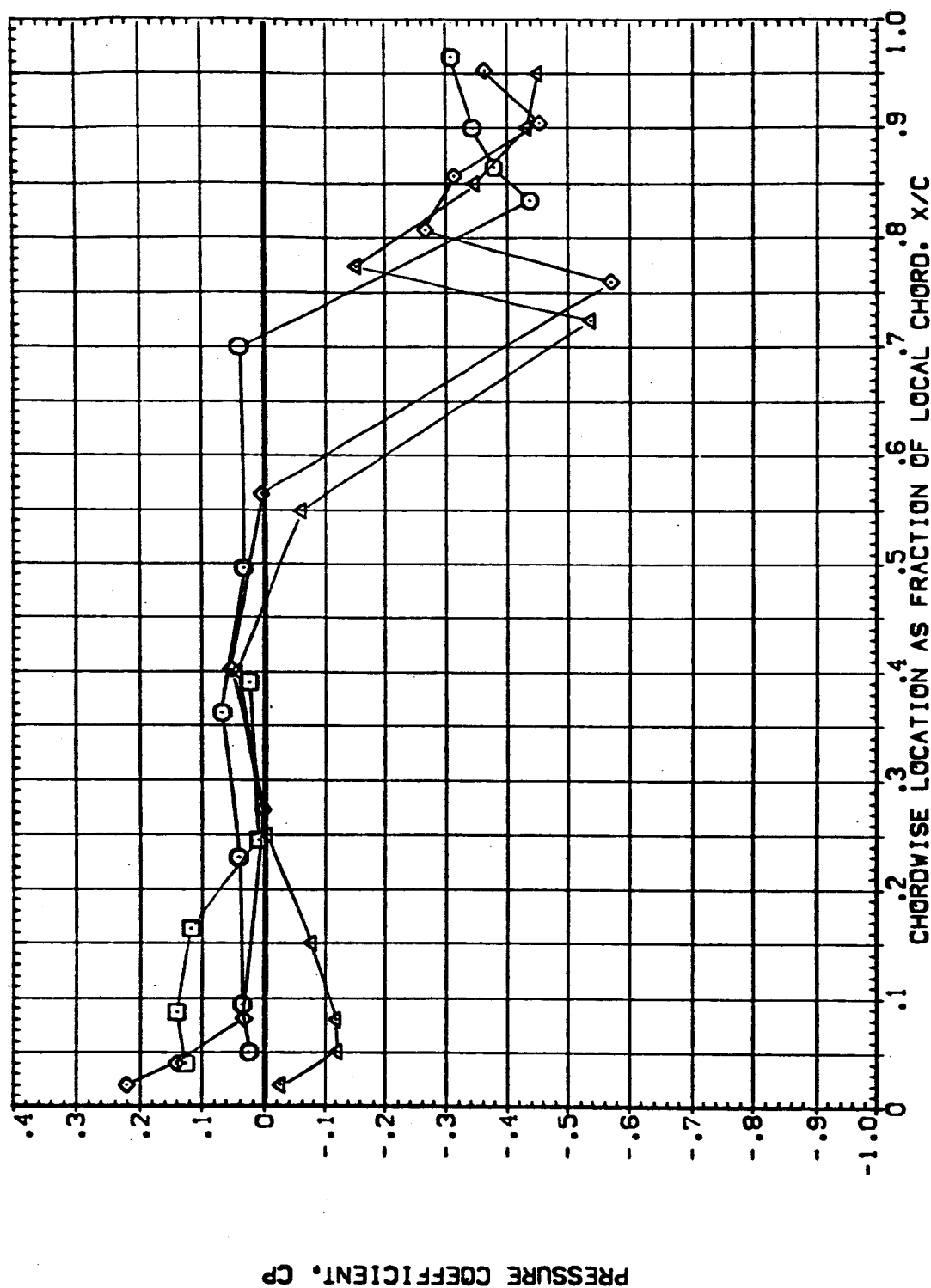


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL 21/8 BETA ALPHA
 ○ .641 .000
 □ .780 .000
 ◇ .887 .000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 1.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

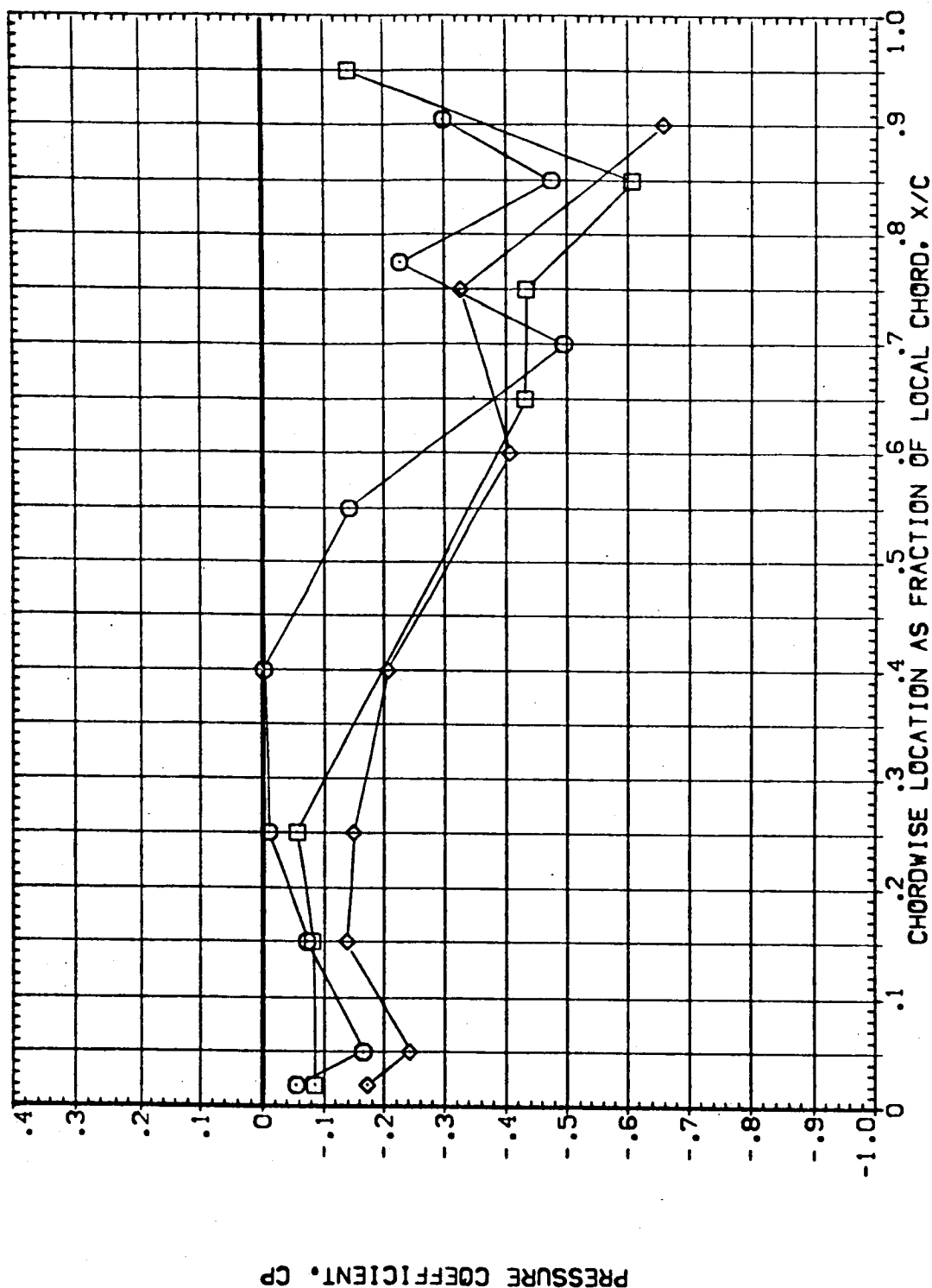


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW01)

SYMBOL 2N/B BETA ALPHA

◇ .299 .000 1.000

□ .364 .000 1.000

◇ .427 .000 1.000

◇ .534 .000 1.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH .900

GIMBAL 1.000

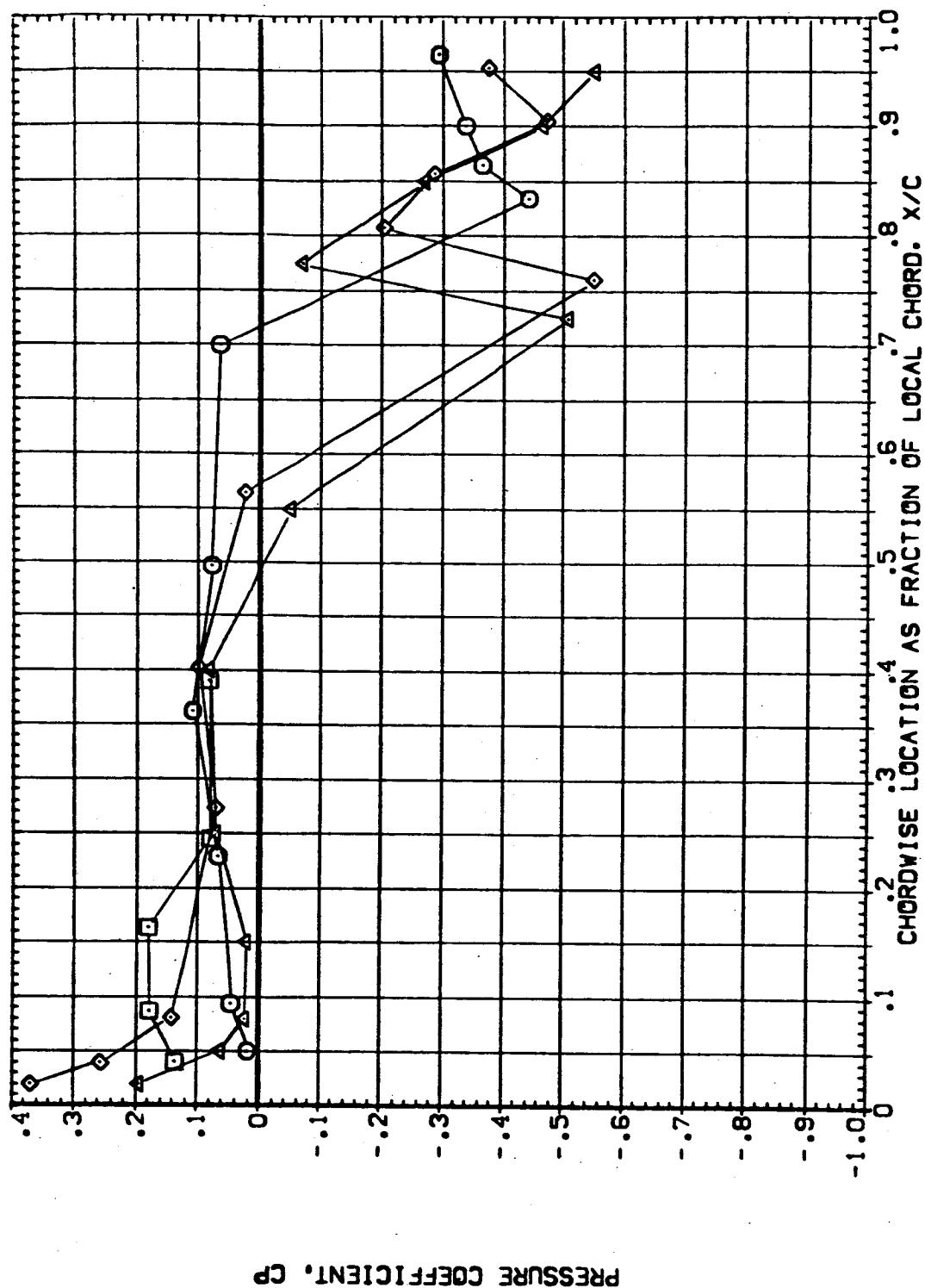


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW01)

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL ZN/B BETA ALPHA
 ○ .641 .000 4.000
 □ .780 .000 4.000
 ◇ .887 .000 4.000

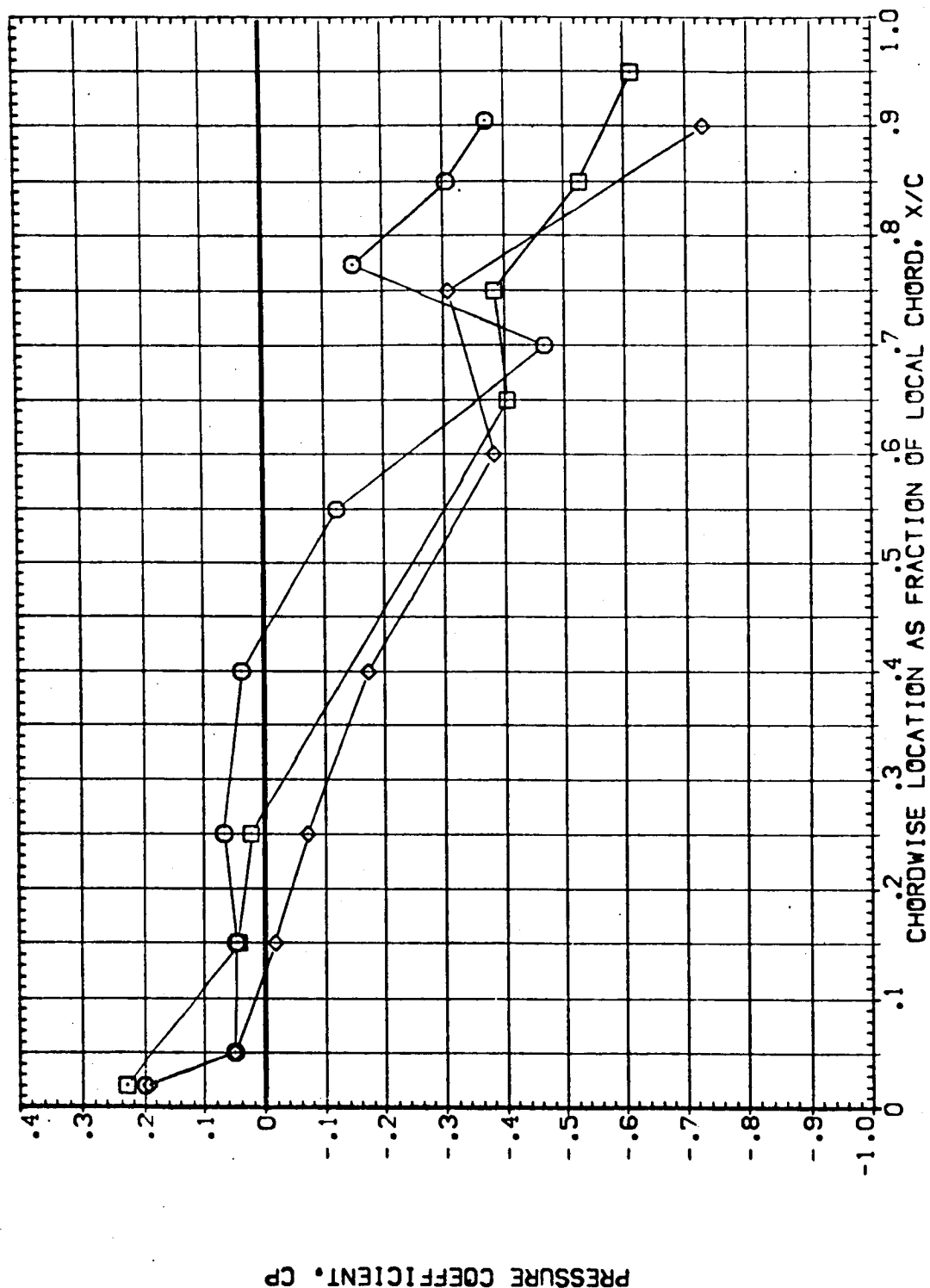


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CEUW01)

SYMBOL	Z1/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
□	.299	-4.000	.000	RUDDER	.000	1.000	.900
◇	.364			GIMBAL			
△	.427						
△	.534						

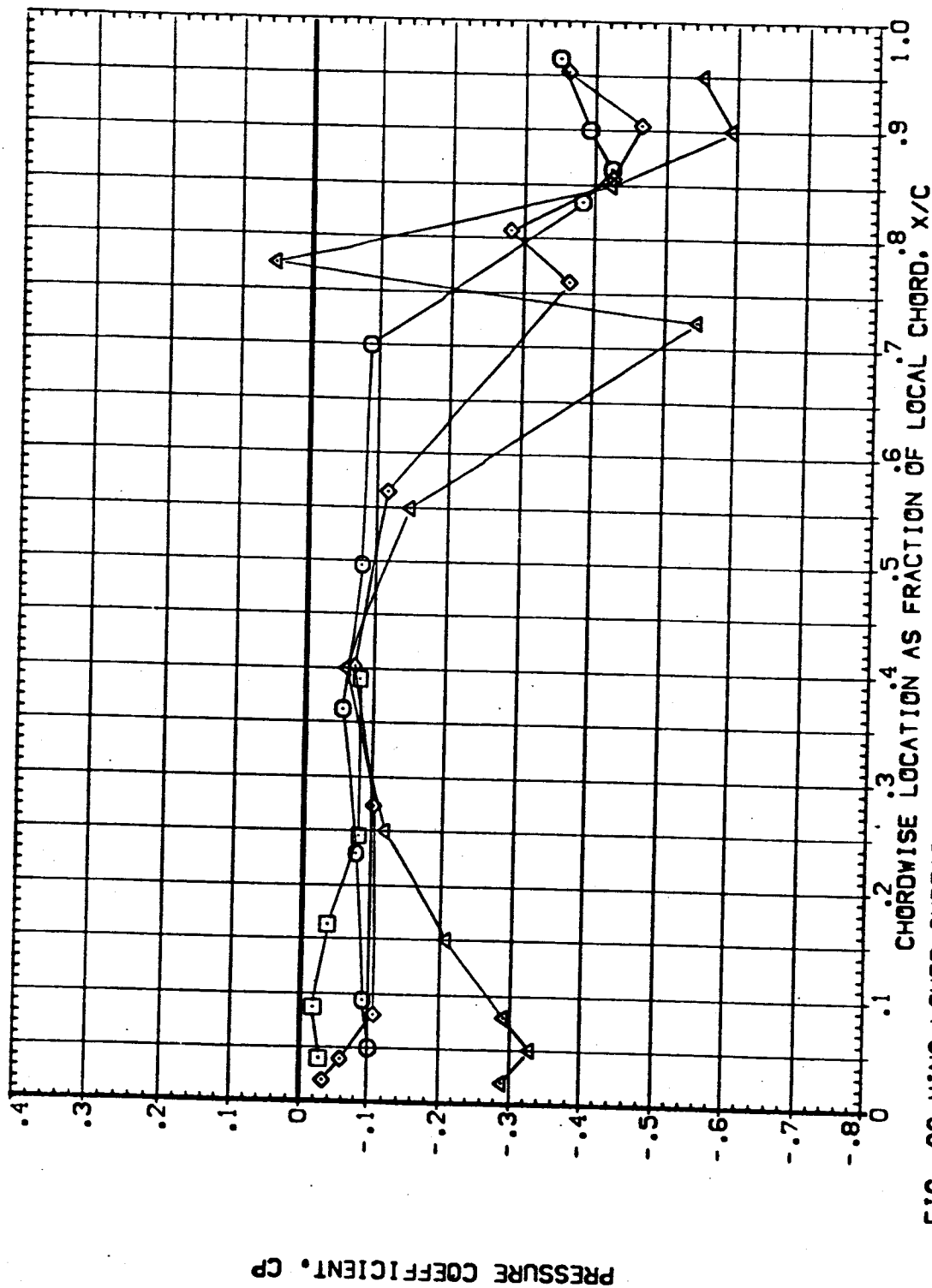


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CCUW01)

PARAMETRIC VALUES
 ELV-18 9.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL 21/8 BETA ALPHA
 .641 -1.000 .000
 .780
 .887

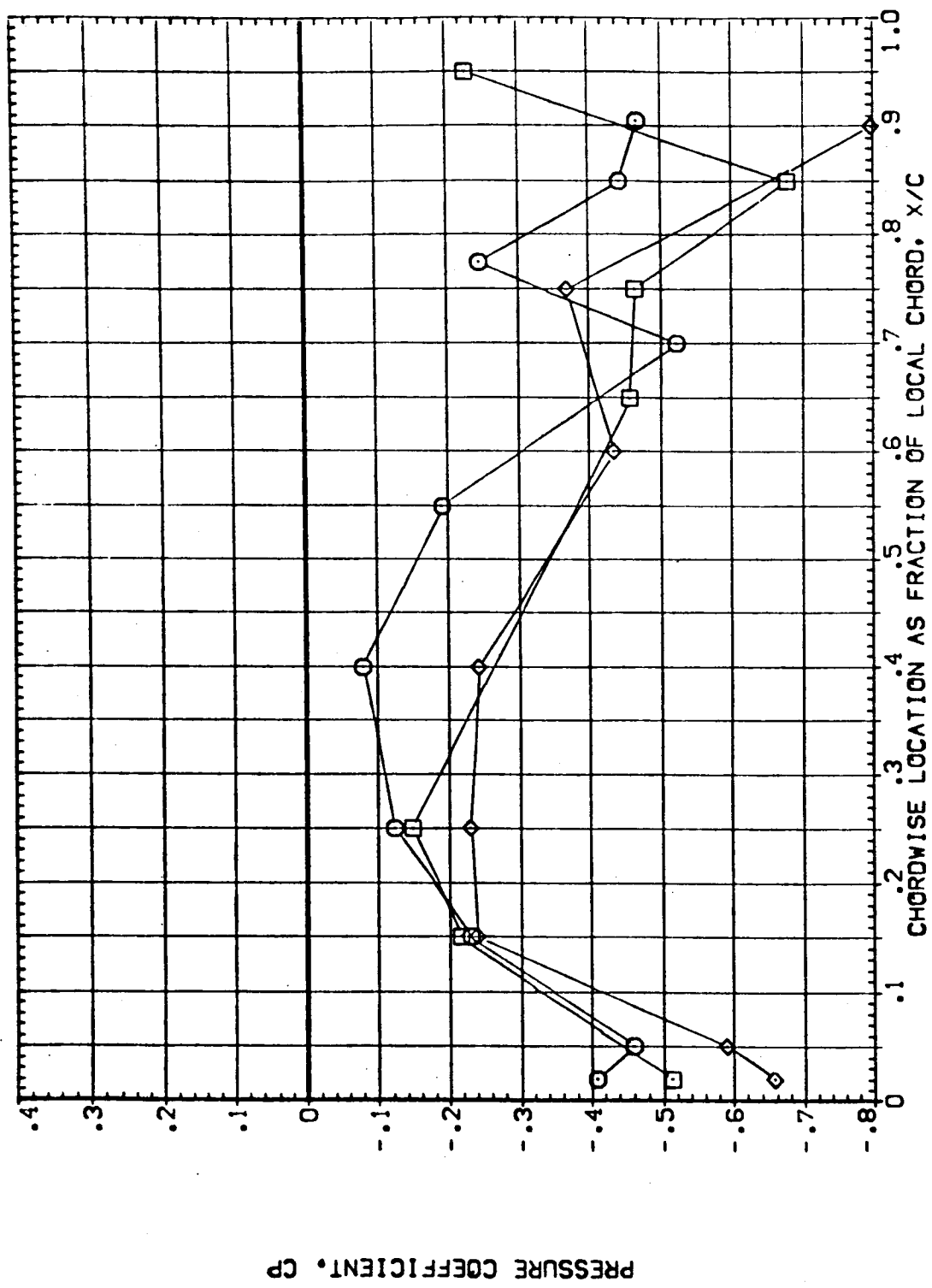


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CEUW01)

SYMBOL
 ○
 □
 ◇
 △

2Y/B BETA ALPHA
 .299 4.000 .000
 .364
 .427
 .534

PARAMETRIC VALUES
 ELV-19 8.000 ELV-09 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

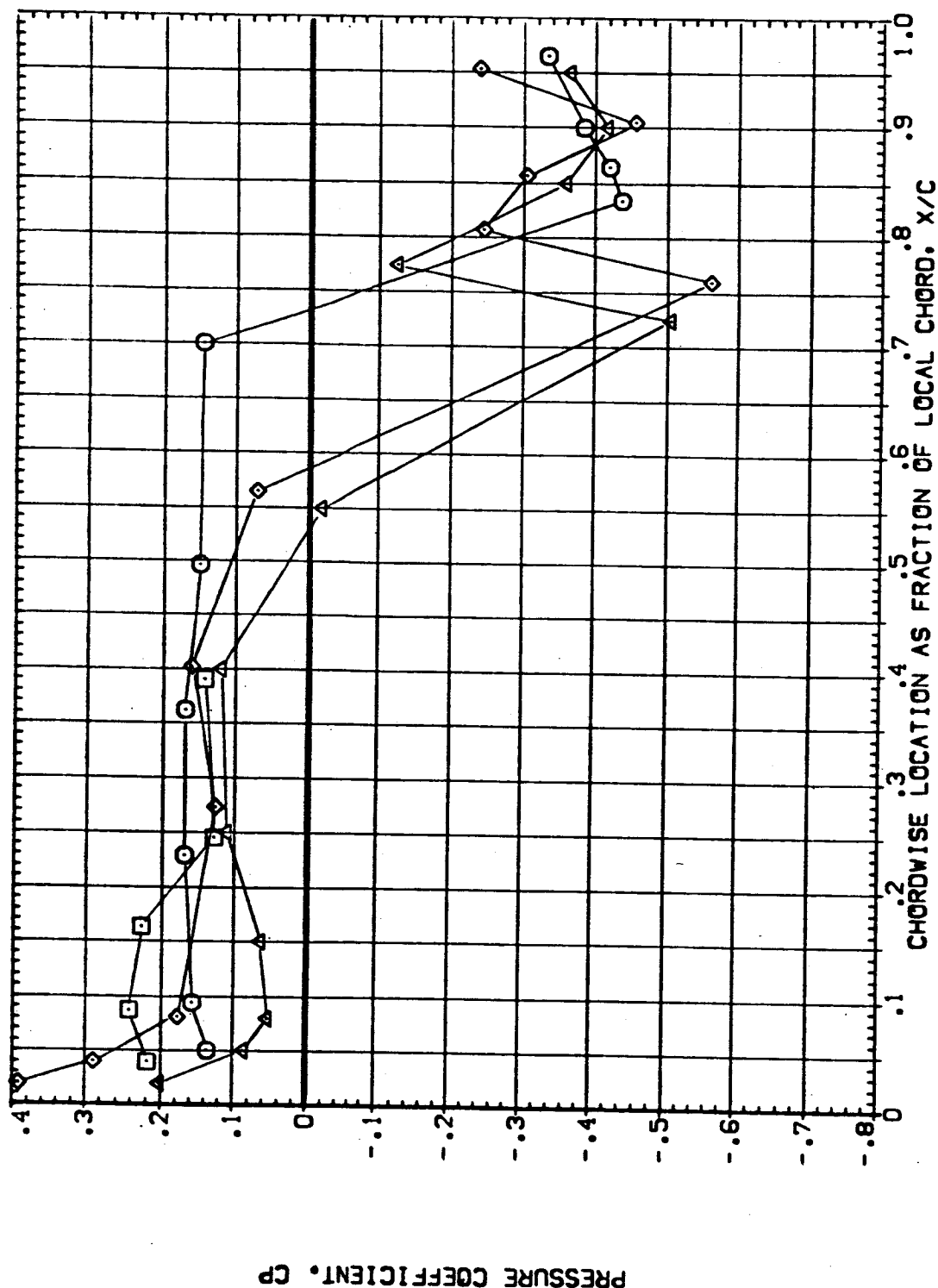


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-014IA19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CEUW01)

SYMBOL
 ○ □ ◇
 2Y/B .641 .780 .887
 BETA 4.000
 ALPHA .000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

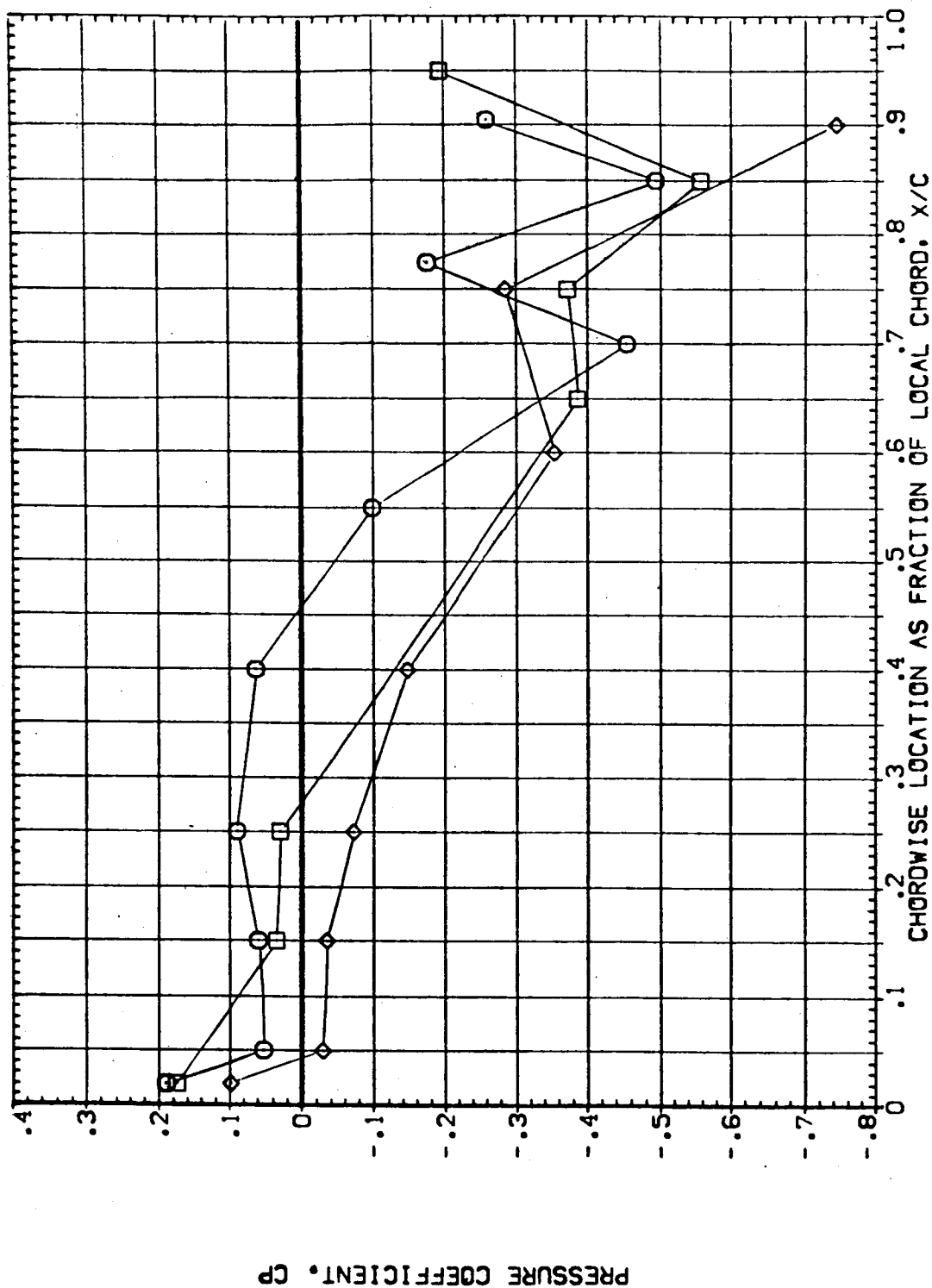


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW02)

SYMBOL	2 γ /8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.299	.000	-4.000	RUDER	.000	1.000	4.000
□	.364			GIMBAL	1.000		1.100
◇	.427						
△	.534						

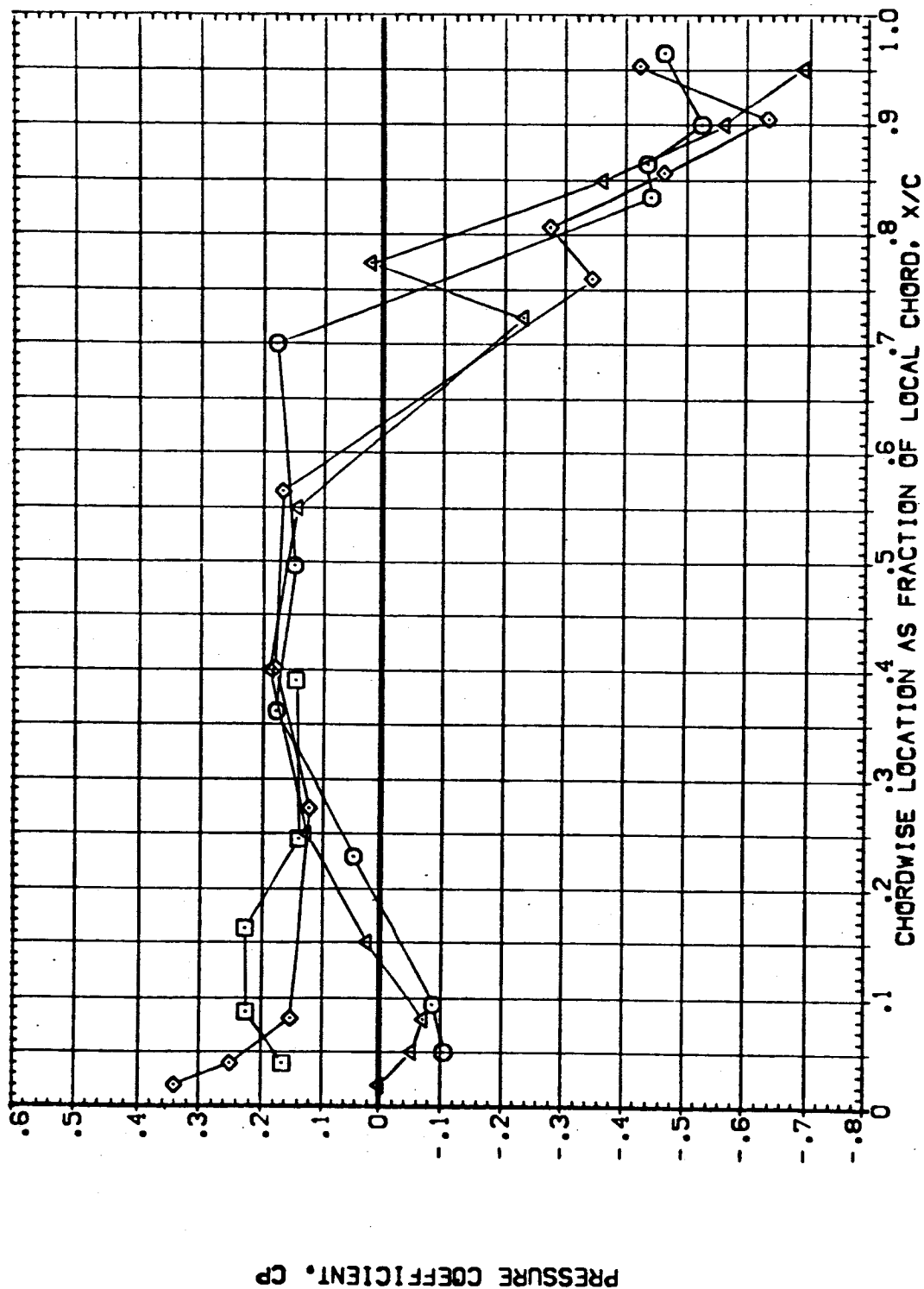


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	Z1/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-1B	8.000	ELV-08	4.000
○	.641	.000	-4.000	RUDER	.000	MACH	1.100
□	.780			GIMBAL	1.000		
◇	.687						

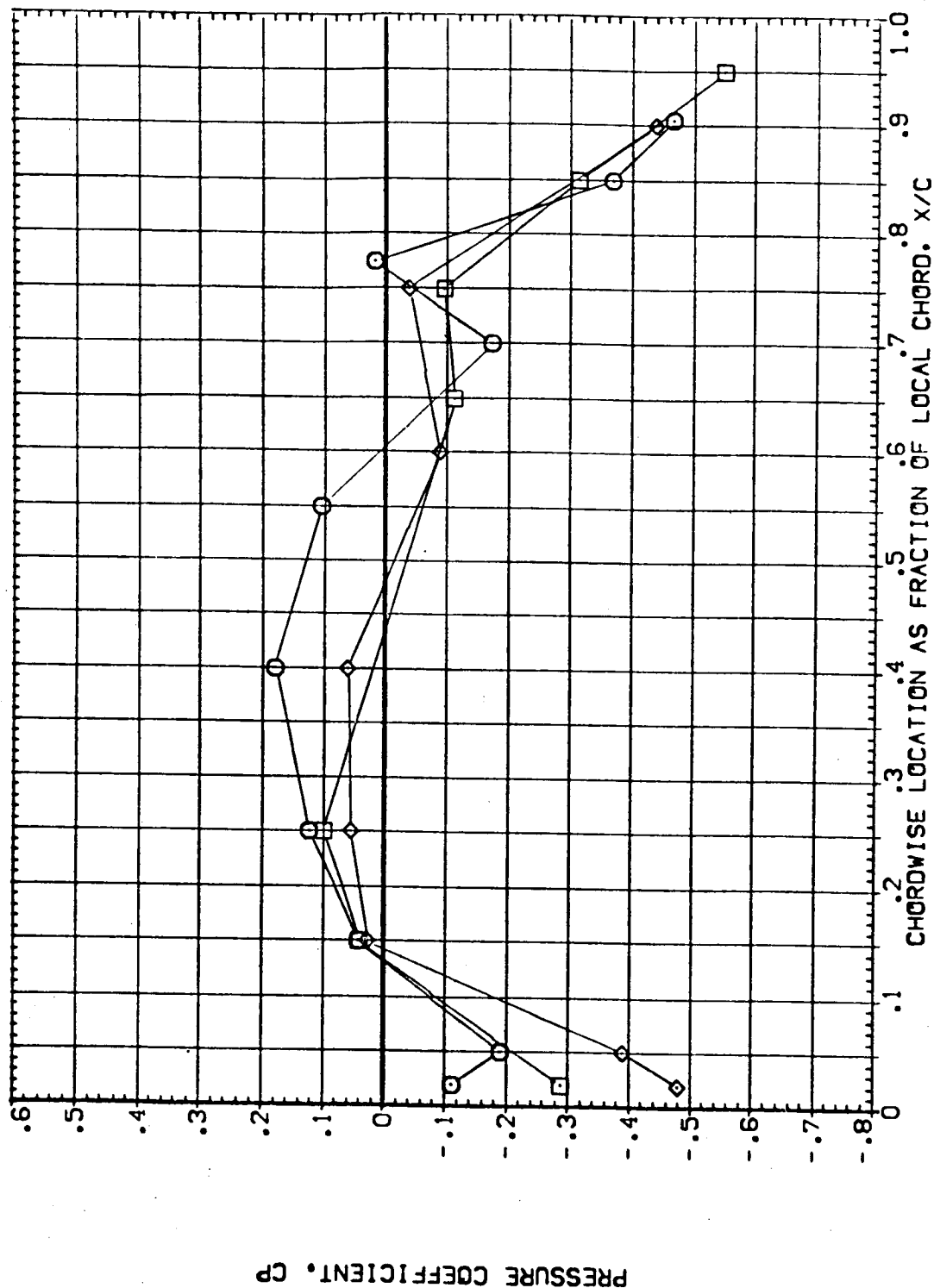


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW02)

SYMBOL	2 γ /B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.299	.000	.000	RUDER	.000	MACH	1.100
□	.364			GIMBAL	1.000		
◇	.427						
△	.534						

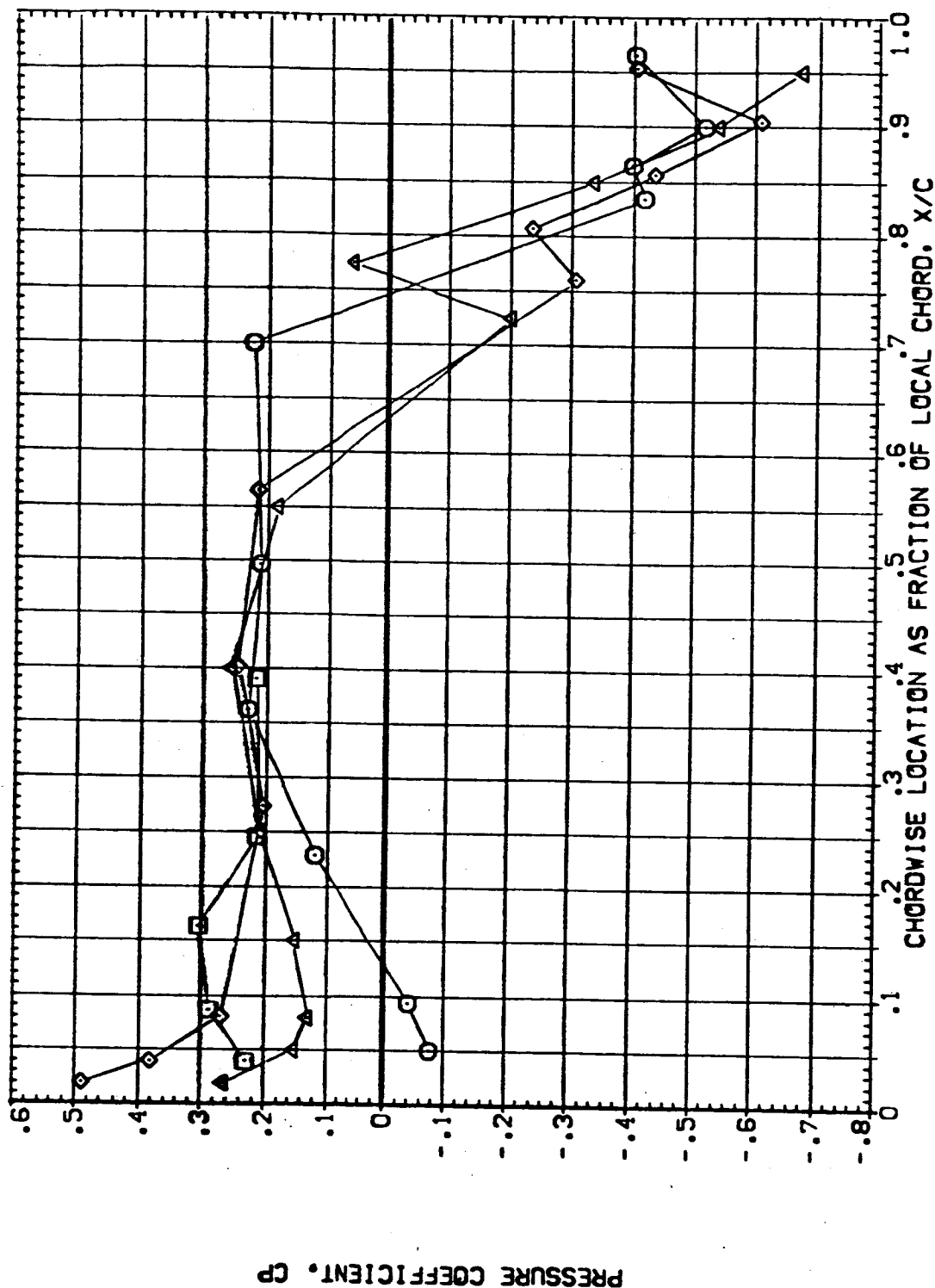


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW02)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.641	.000	.000	RUDDER	.000	1.000	4.000
□	.780			GIMBAL	1.000		1.100
◇	.687						

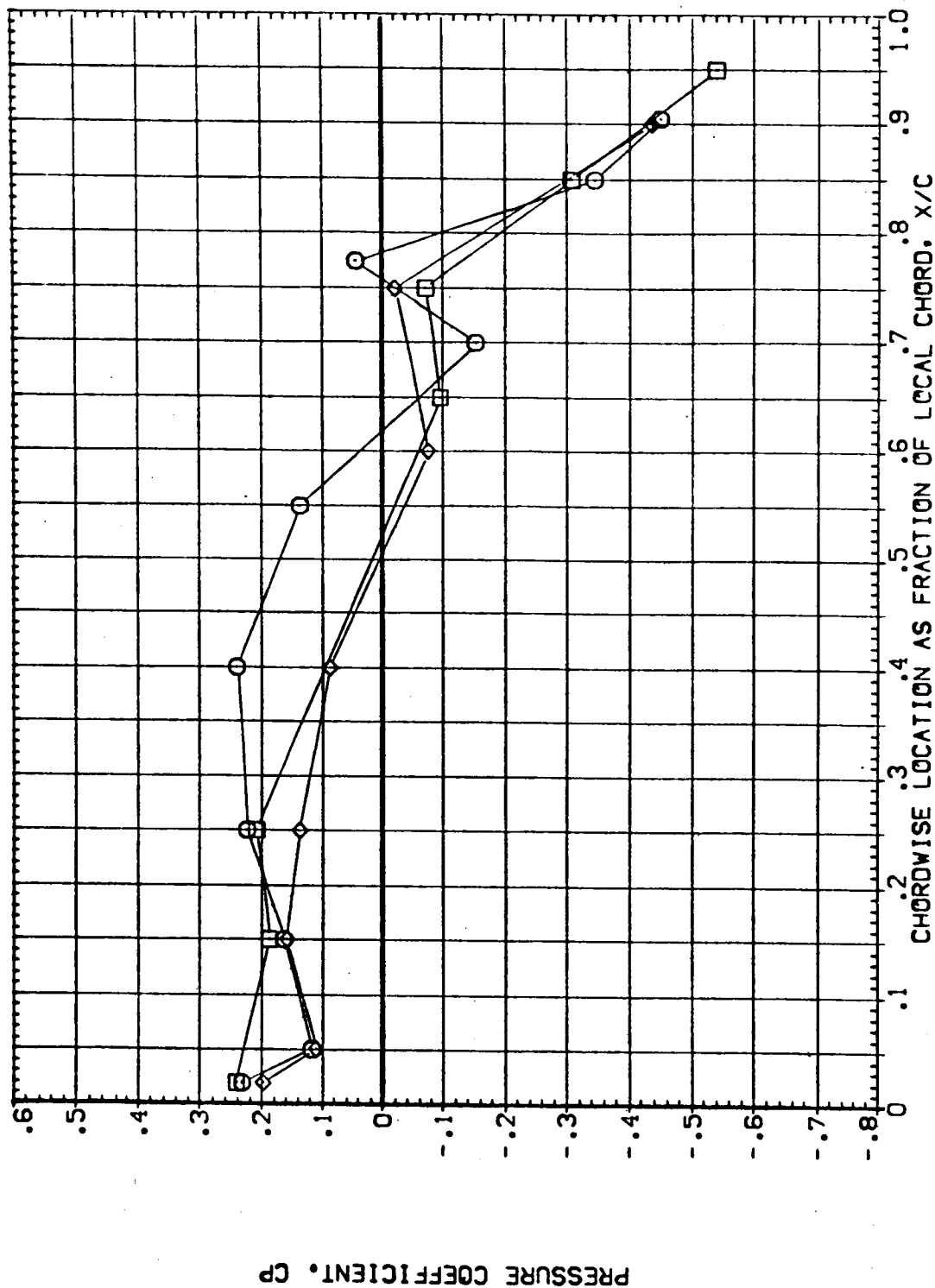


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW02)

SYMBOL 2Y/B BETA ALPHA

○ .299 .000 1.000

□ .364 .000 1.000

◇ .427 .000 1.000

△ .534 .000 1.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.100

GIMBAL 1.000

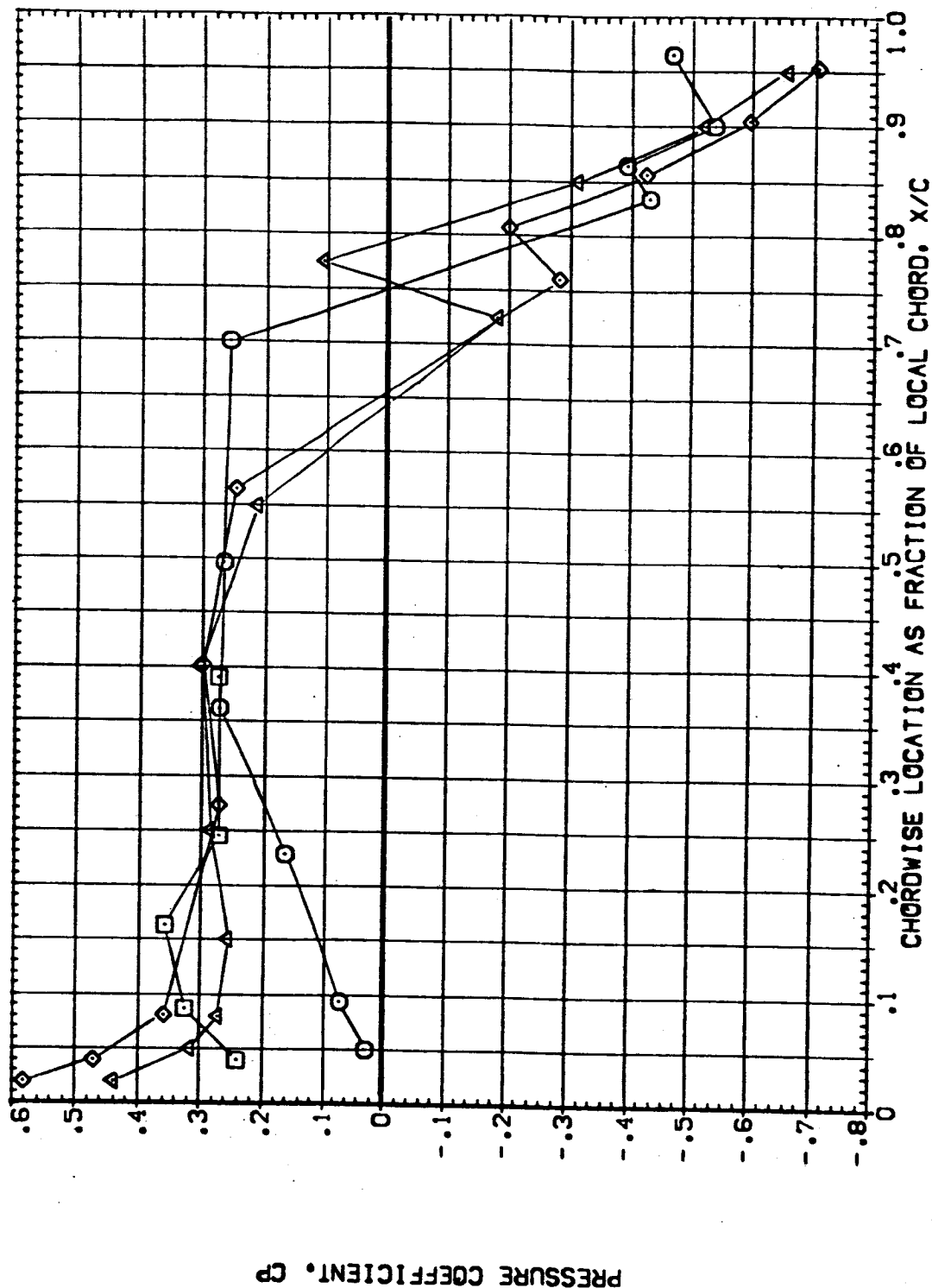


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+SIRUT SRB-OFF MPS-OFF LWR WING(BEUW02)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-00	MACH
○	.641	.000	4.000	RUDER			
□	.780			GIMBAL			
◇	.887						

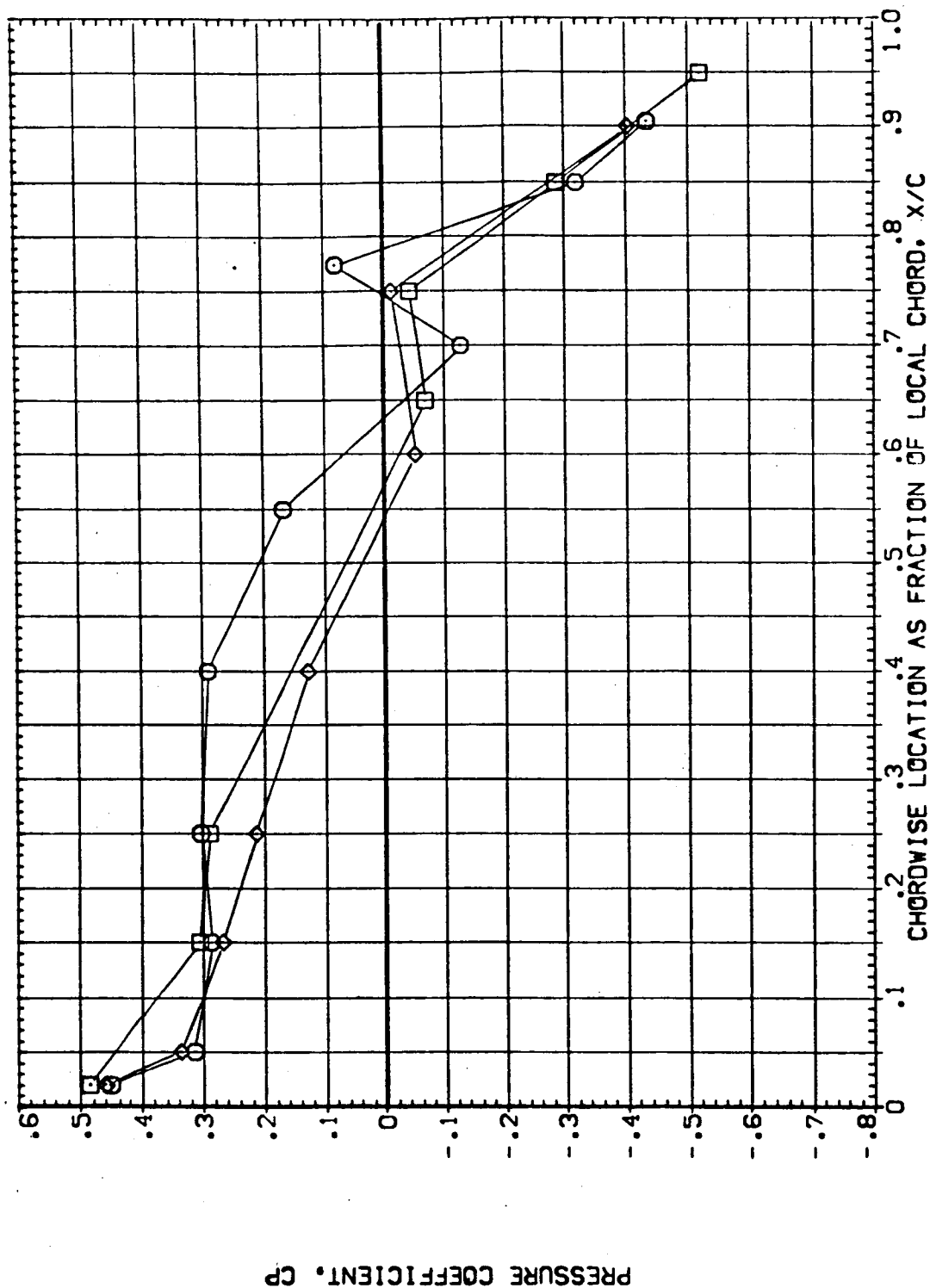


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CEUW02)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.299	-1.000	.000	RUDER	.000	1.000	4.000
□	.364			GIMBAL	1.000		1.100
◇	.427						
△	.534						

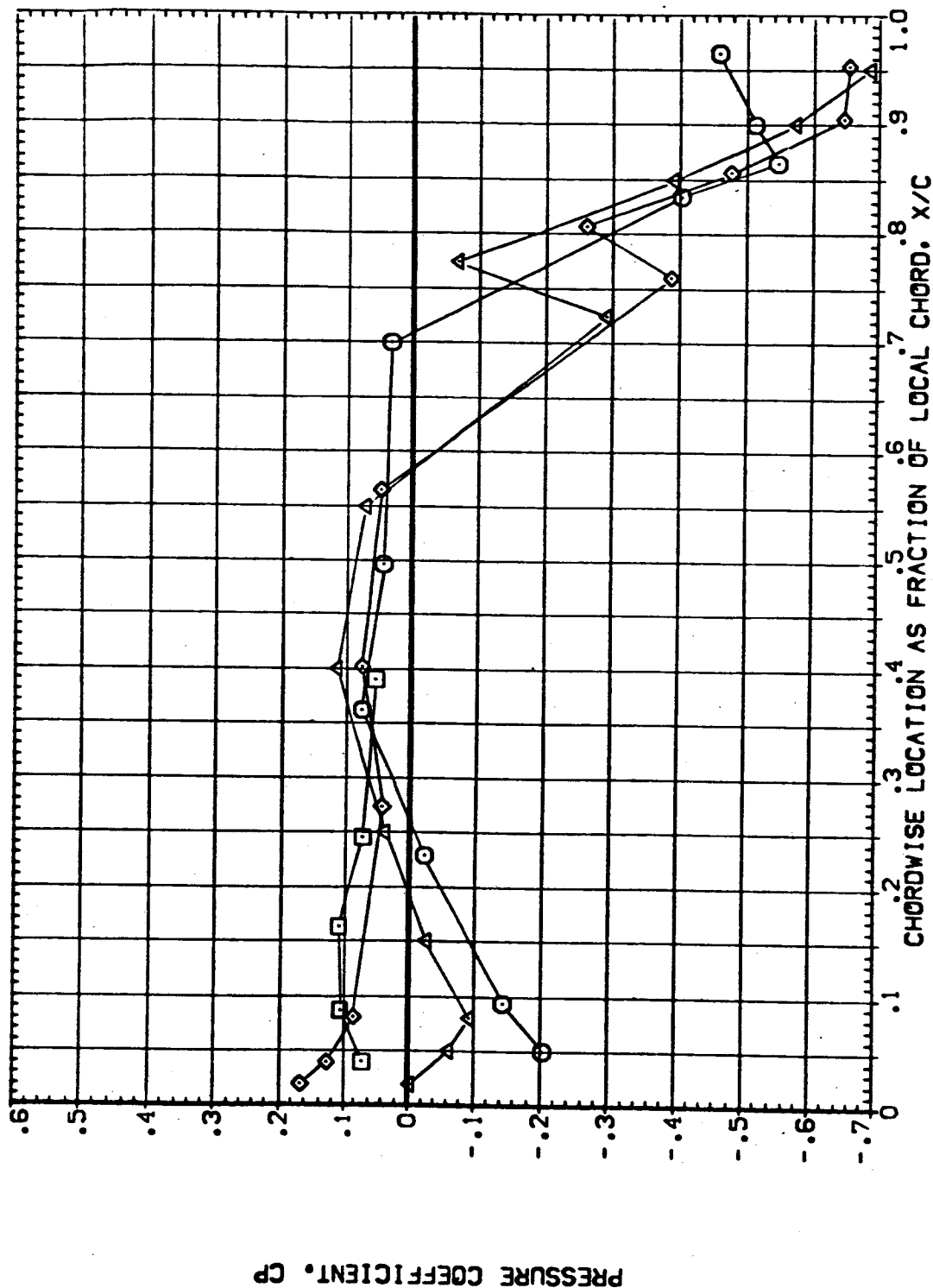


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL 21/B BETA ALPHA

○ .641 -1.000 .000

□ .780 .000 .000

◇ .697 .000 .000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.100

GIMBAL 1.000

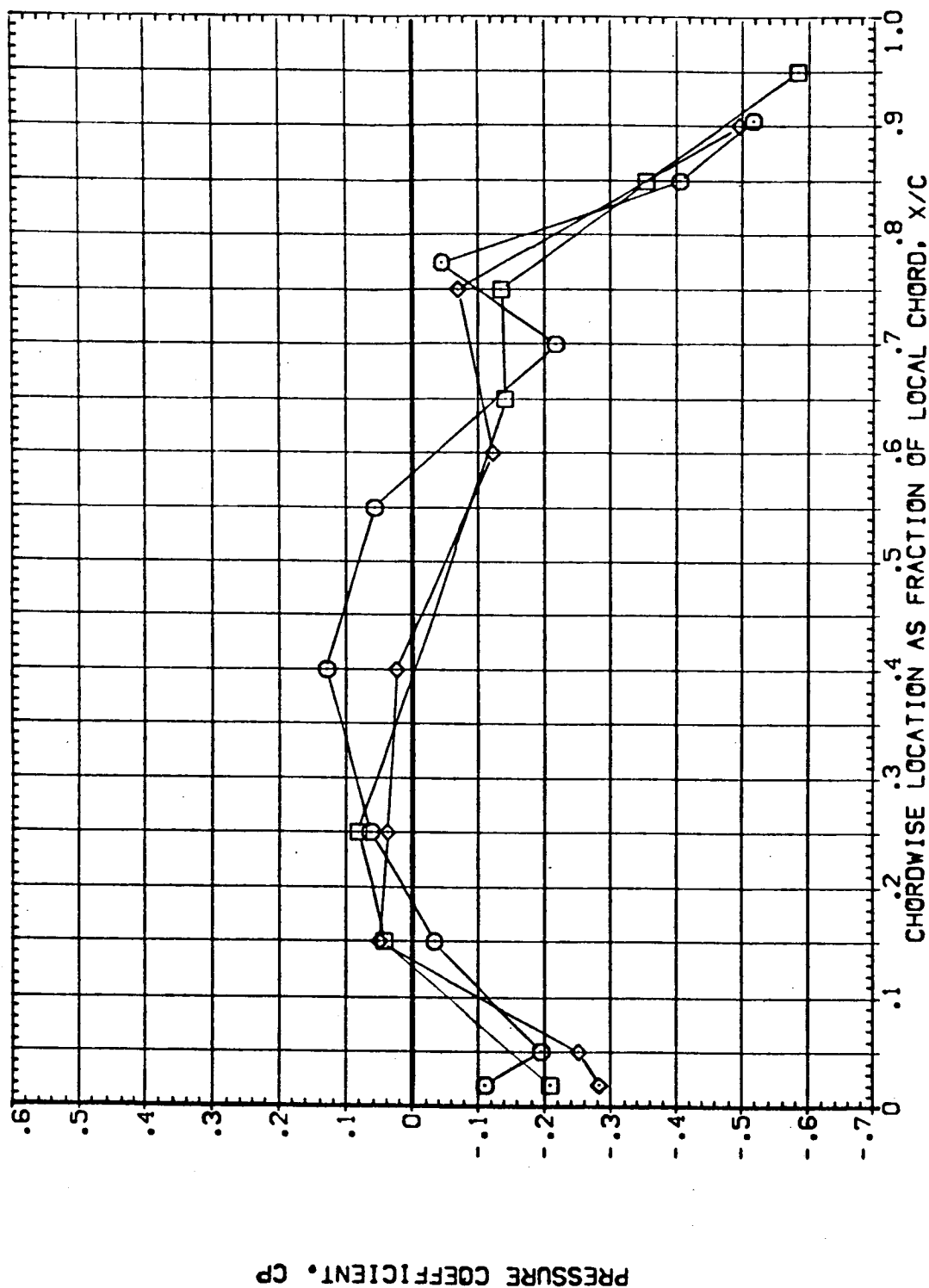


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CEUW02)

SYMBOL	2N/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.299	4.000	.000	RUDER	.000	MACH	1.100
□	.364			GIMBAL	1.000		
◇	.427						
△	.534						

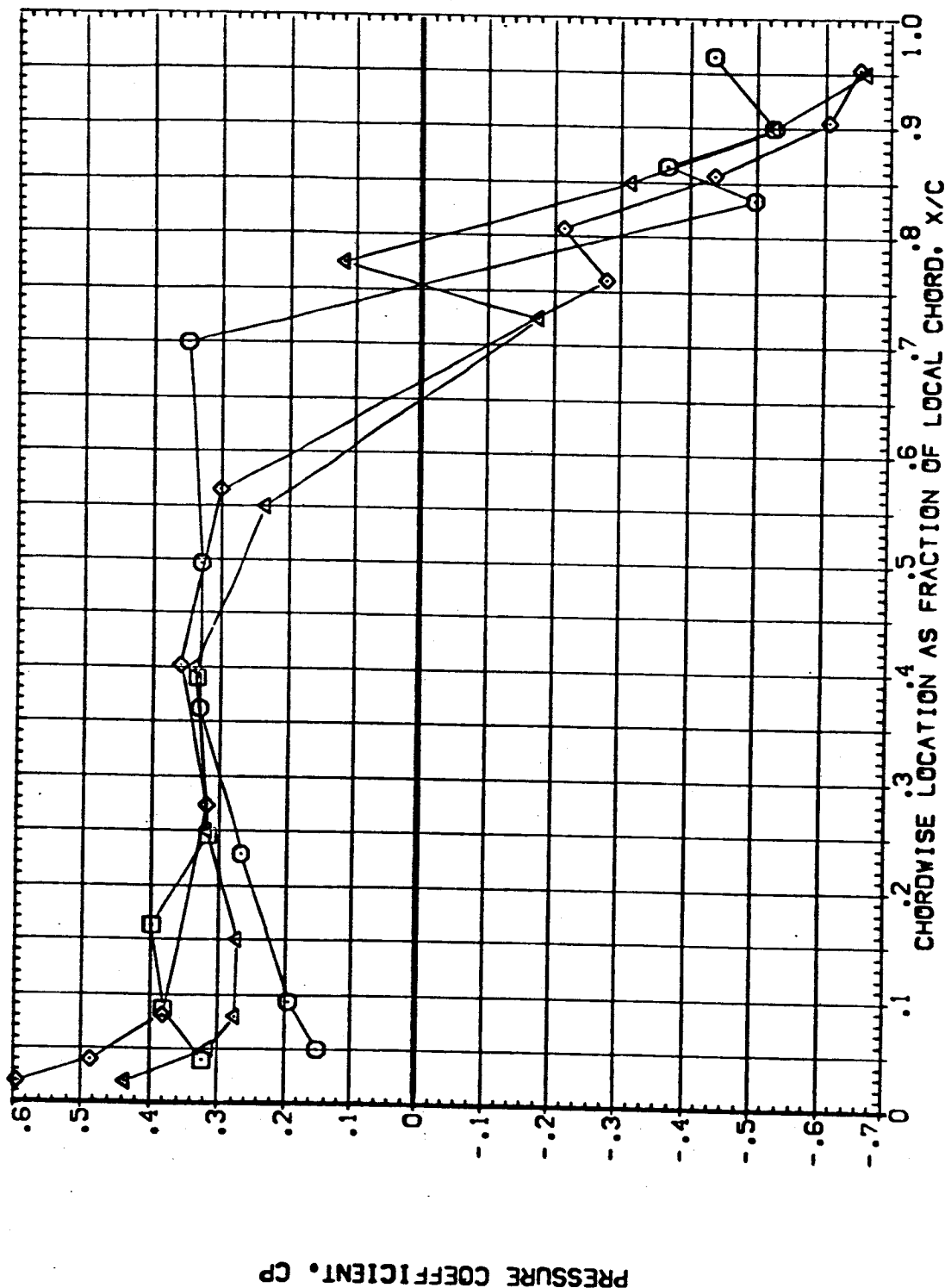


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	Z1/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
○	.641	4.000	.000	RUDDER	.000	1.000	4.000
□	.780			GIMBAL			1.100
◇	.897						

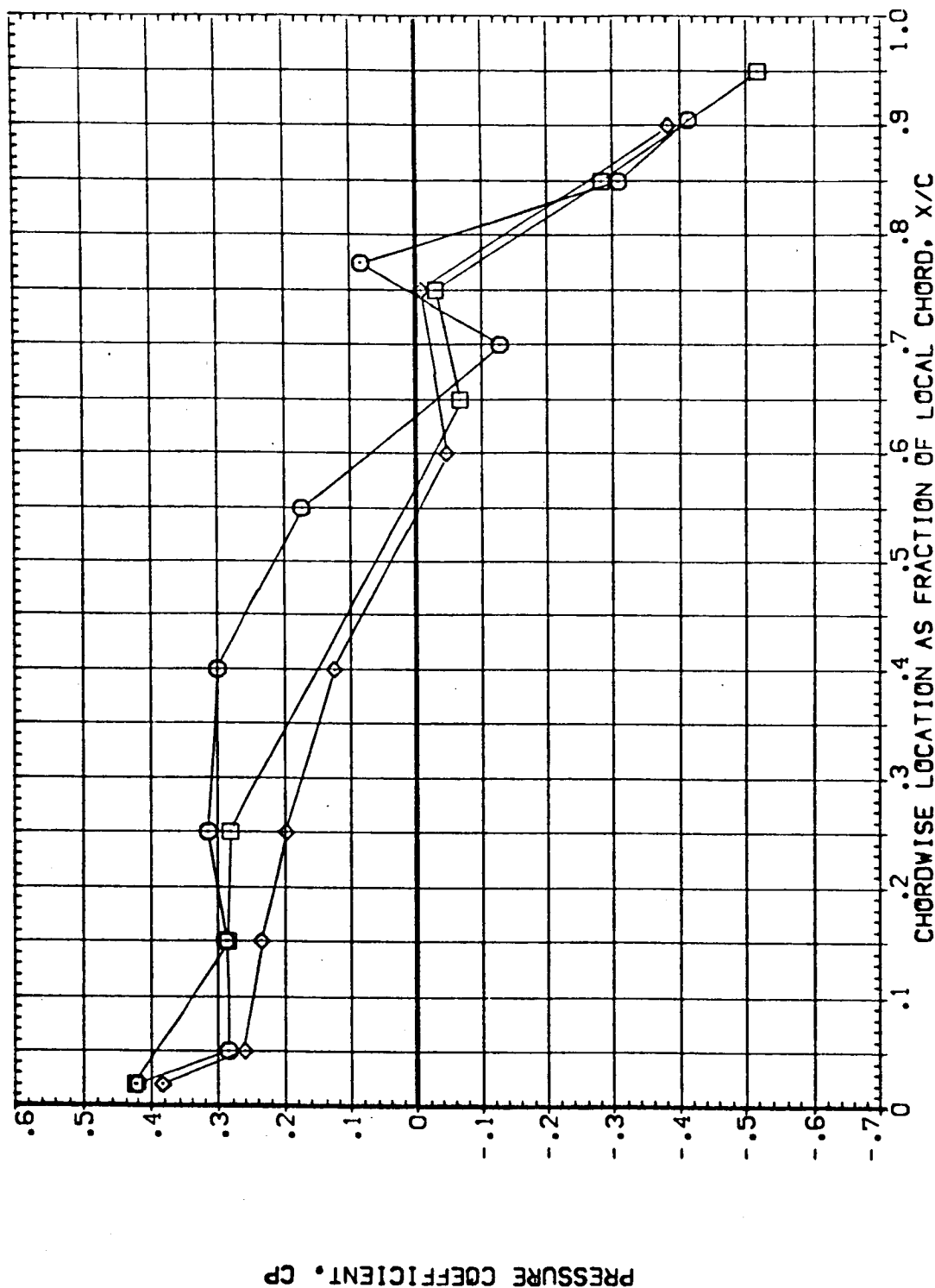


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW03)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	4.000
○	.299	.000	-4.000	RUDER	.000	MACH	1.250
□	.364			GIMBAL	1.000		
◇	.427						
△	.534						

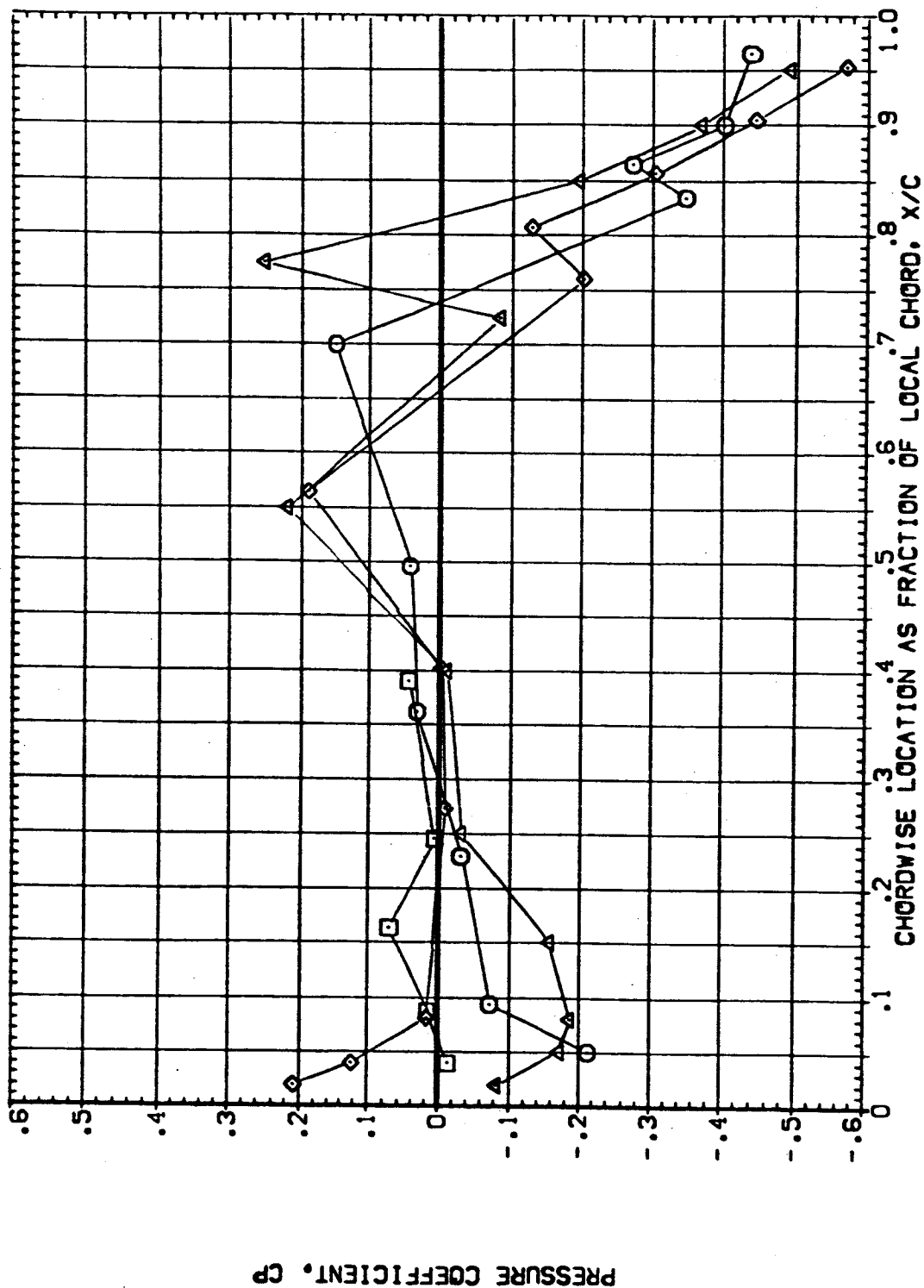


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL 21/B BETA ALPHA
 ○ .641 .000 -4.000
 □ .780
 ◇ .987

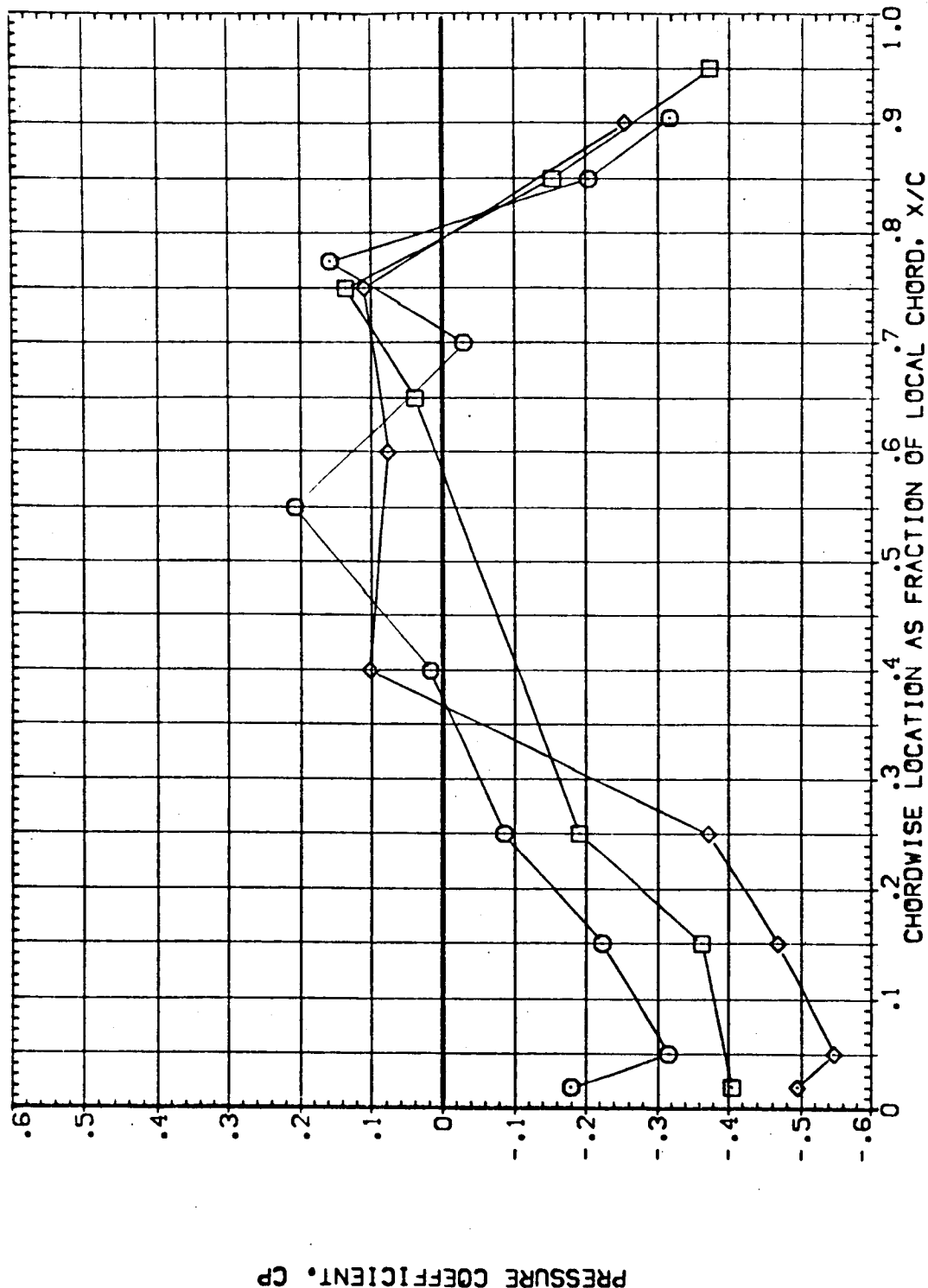


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW03)

SYMBOL ZY/B BETA ALPHA

○ .299 .000 .000

□ .364 .000 .000

◇ .427 .000 .000

▽ .534 .000 .000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDDER .000 MACH 1.250

GIMBAL 1.000

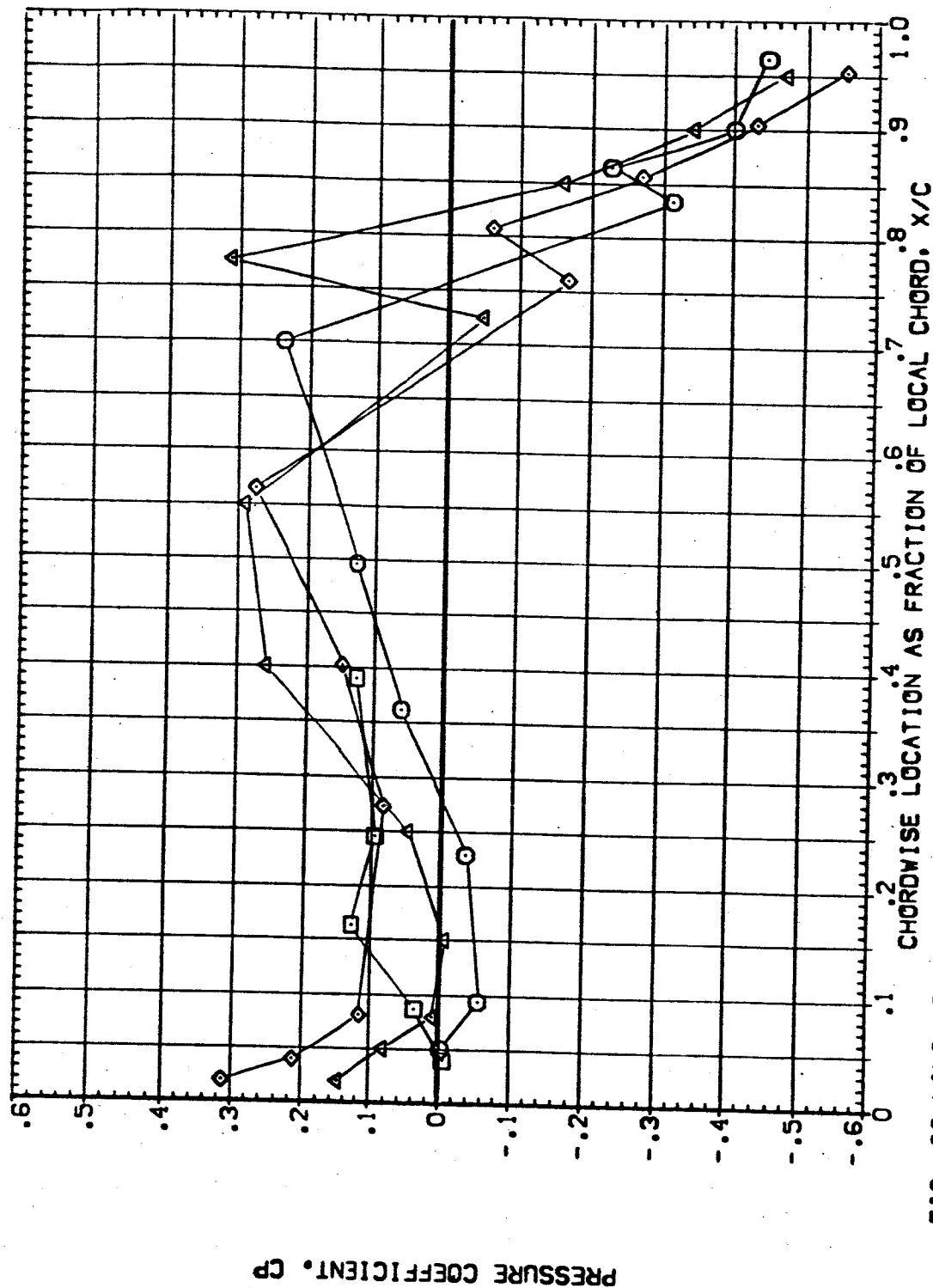


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 .641 .000 .000
 .780
 .887

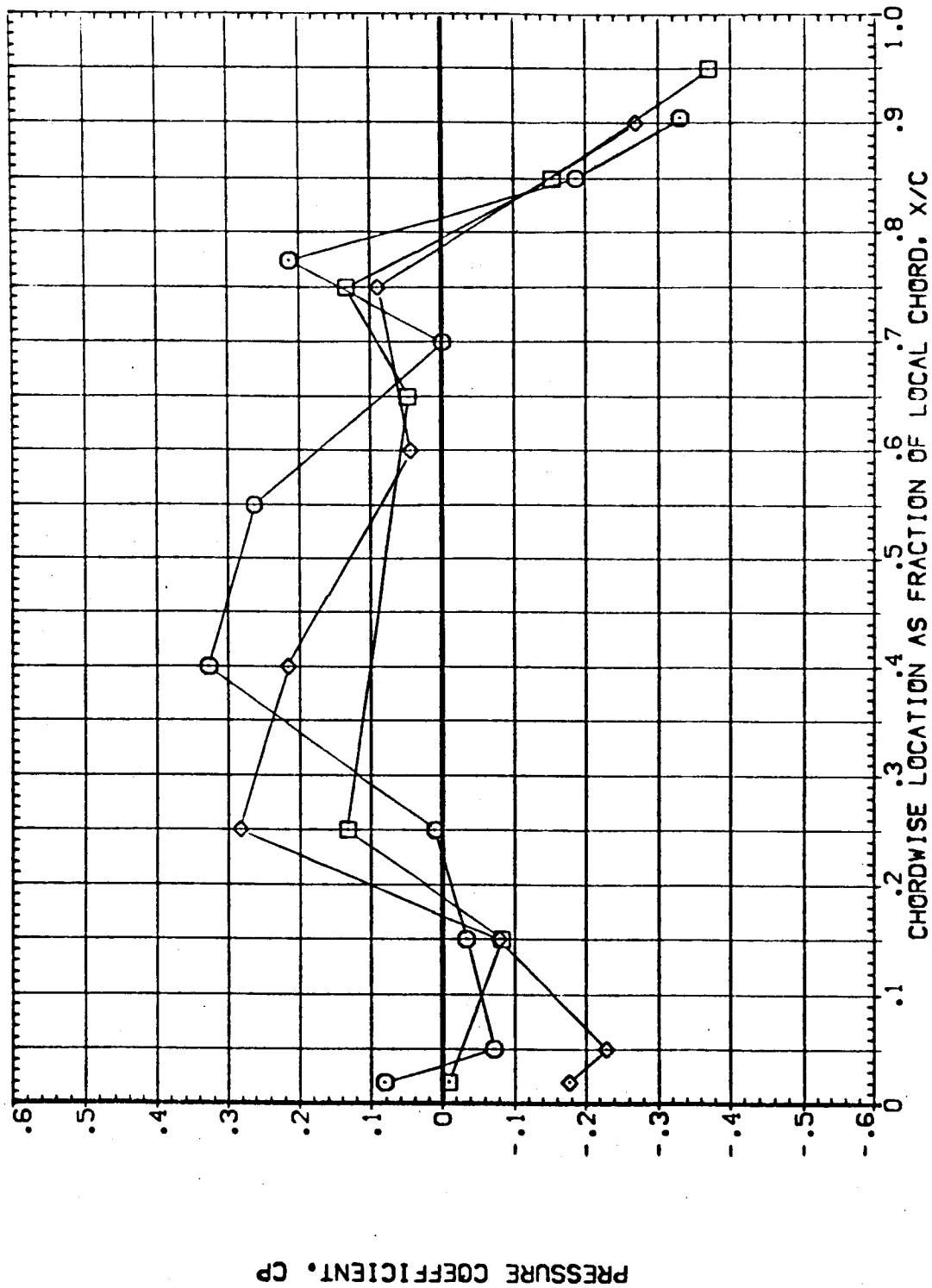


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW03)

SYMBOL $2\alpha/\theta$ BETA ALPHA

○ .259 .000 4.000

□ .364 .000 4.000

◇ .427 .000 4.000

△ .534 .000 4.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.250

GIMBAL 1.000

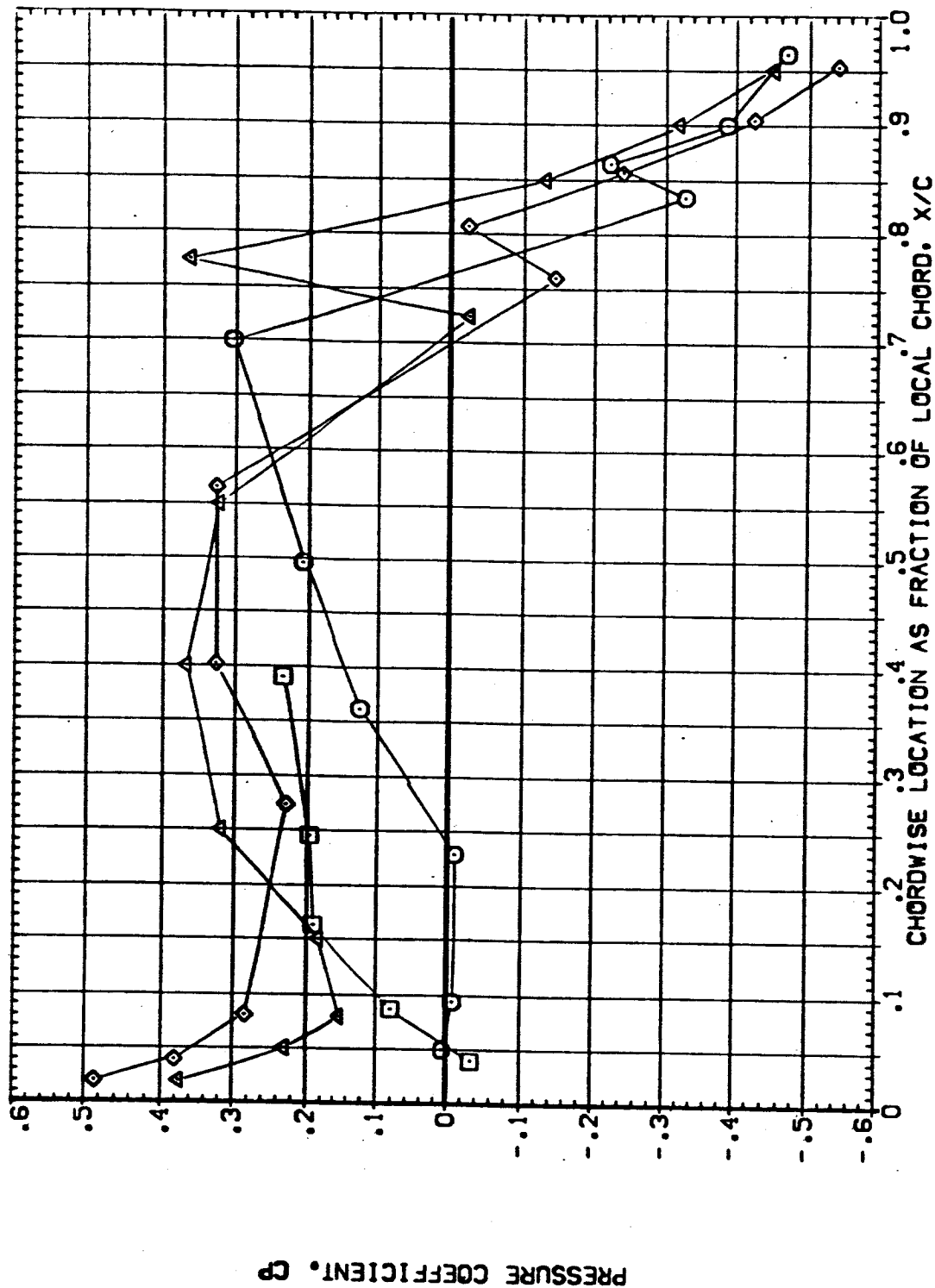


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW03)

SYMBOL	2V/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-09	MACH	
○	.641	.000	4.000	RUDDER	.000	1.000	4.000
□	.780			GIMBAL	1.000		1.250
◇	.887						

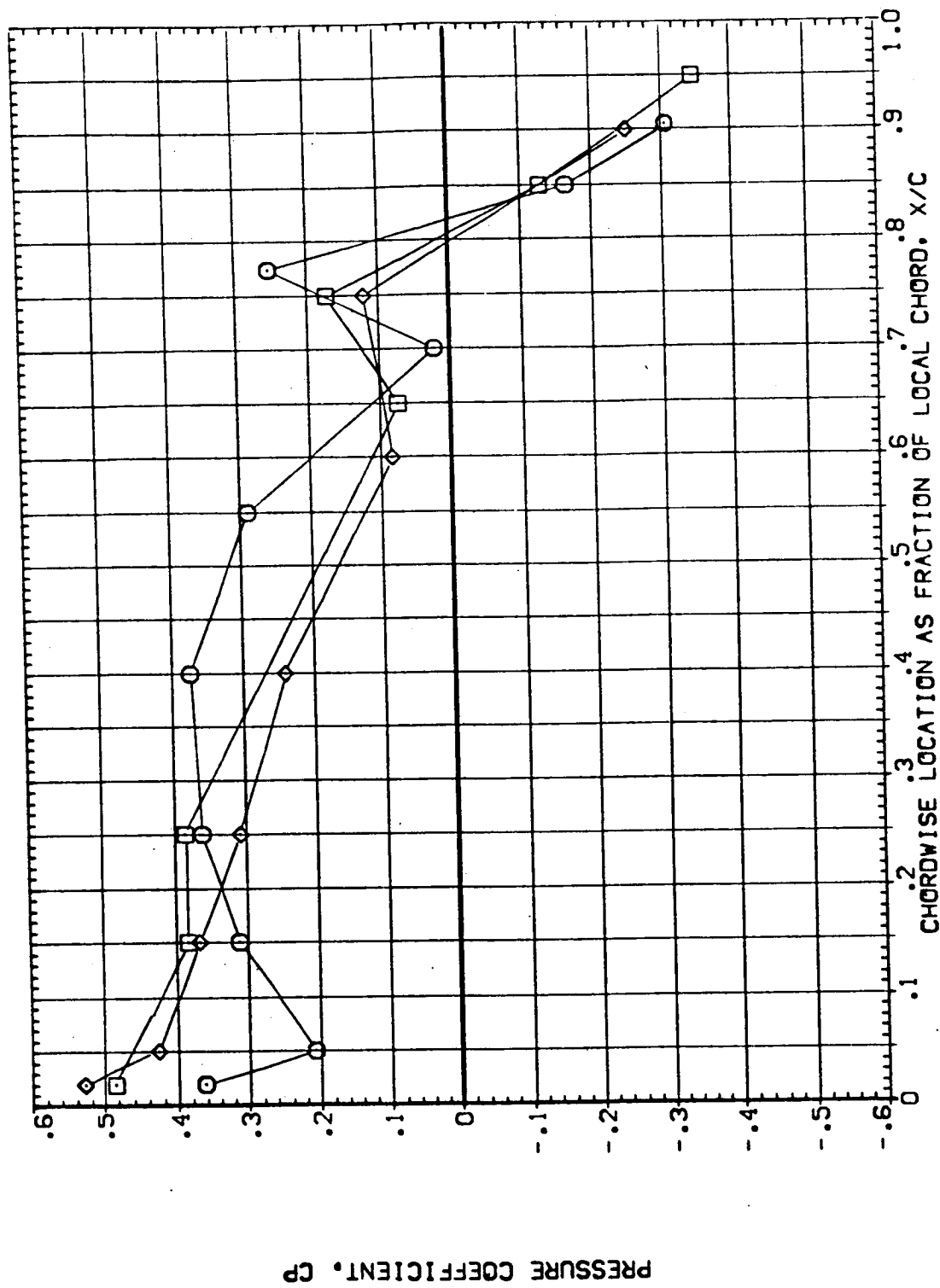


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CCEUW03)

SYMBOL 2V/B BETA ALPHA

○ .299 -1.000 .000

□ .364

◇ .427

△ .534

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.250

GIMBAL 1.000

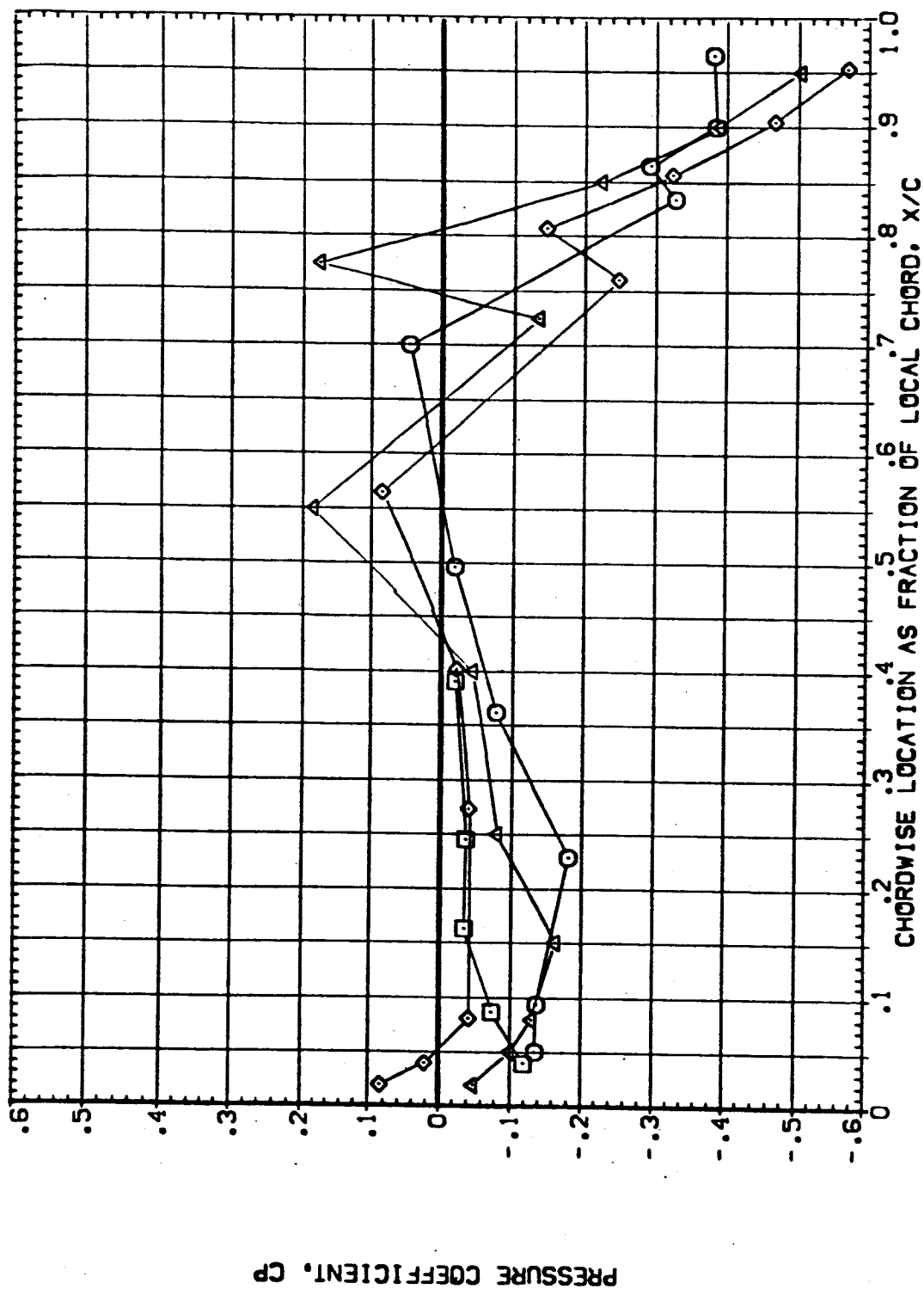


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CEUW03)

SYMB.	Z1/B	BETA	ALPHA	PARAMETRIC VALUES		
				ELV-1B	ELV-0B	MACH
○	.641	-4.000	.000	8.000	8.000	4.000
□	.780			.000	.000	1.250
◇	.687			1.000		
				RUDER		
				GIMBAL		

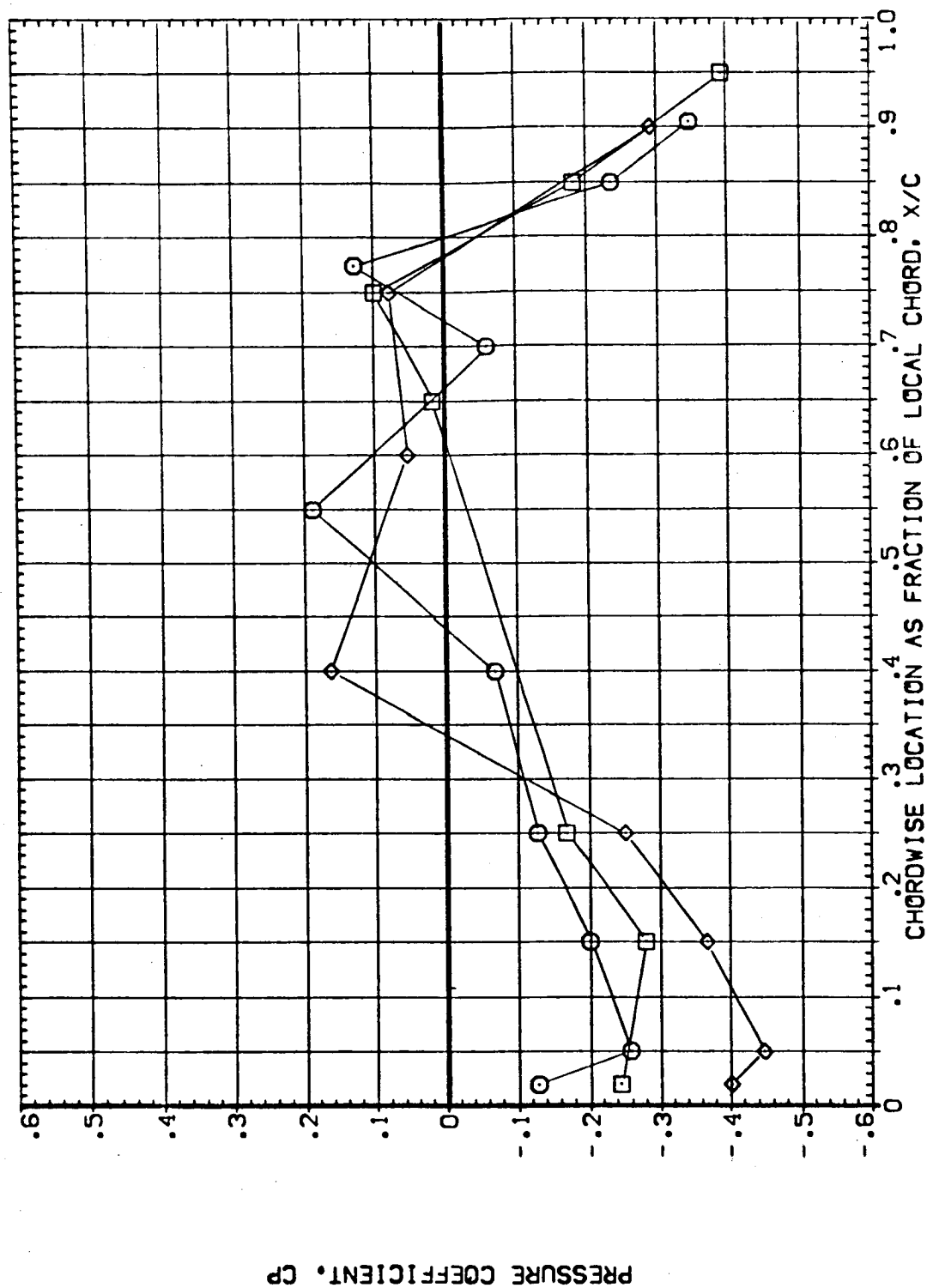


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CEUW03)

SYMBOL 21/B BETA ALPHA

○ .299 4.000 .000

◇ .364 4.000 .000

◇ .427 4.000 .000

△ .534 4.000 .000

PARAMETRIC VALUES

ELV-1B 8.000 ELV-08 4.000

RUDER .000 MACH 1.250

GIMBAL 1.000

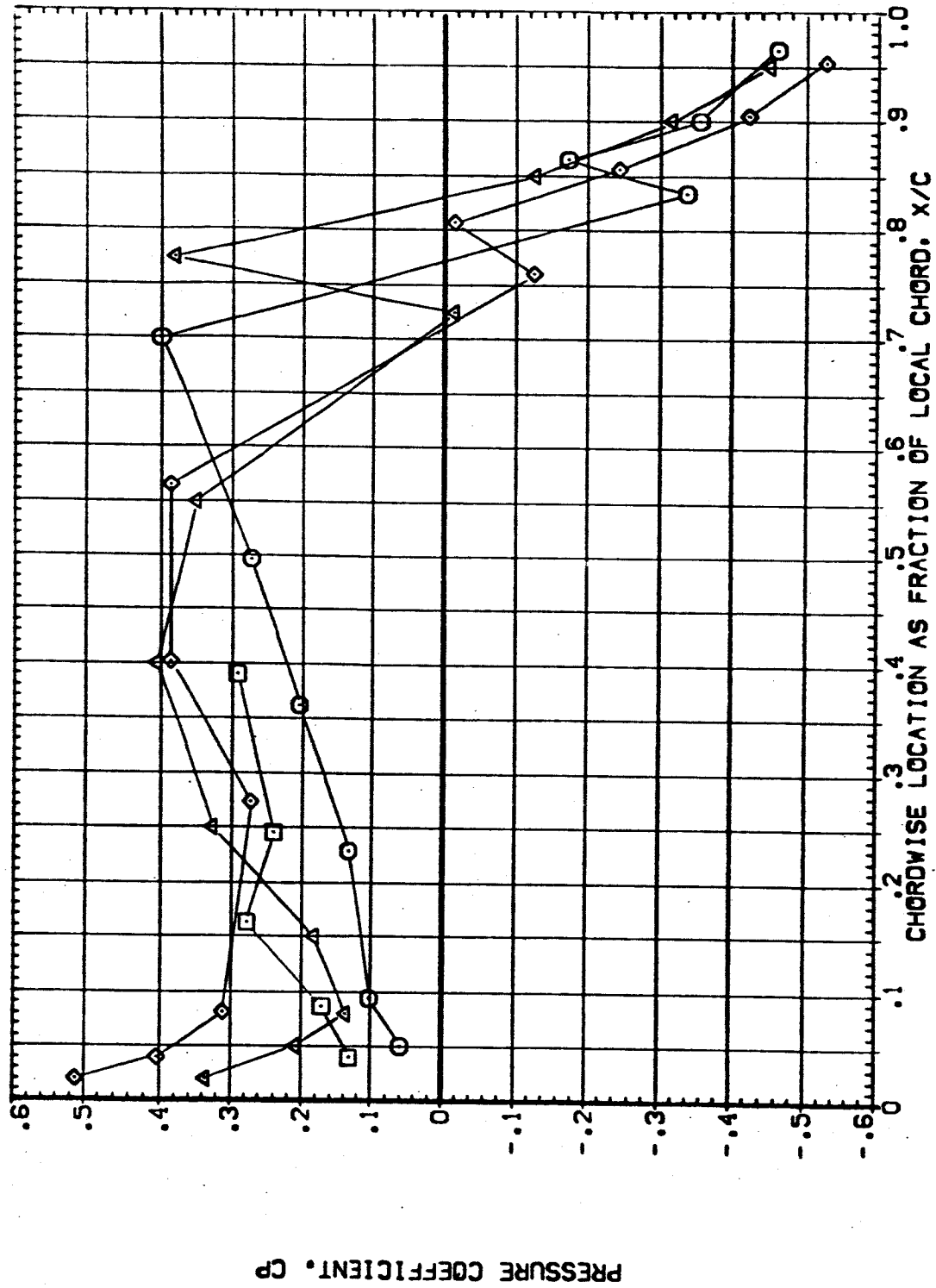


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CEUW03)

SYMBOL	Z _{1/8}	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-09	MACH	
○	.641	4.000	.000	RUDDER	.000	1.000	4.000
□	.780			GIMBAL	1.000		1.250
◇	.887						

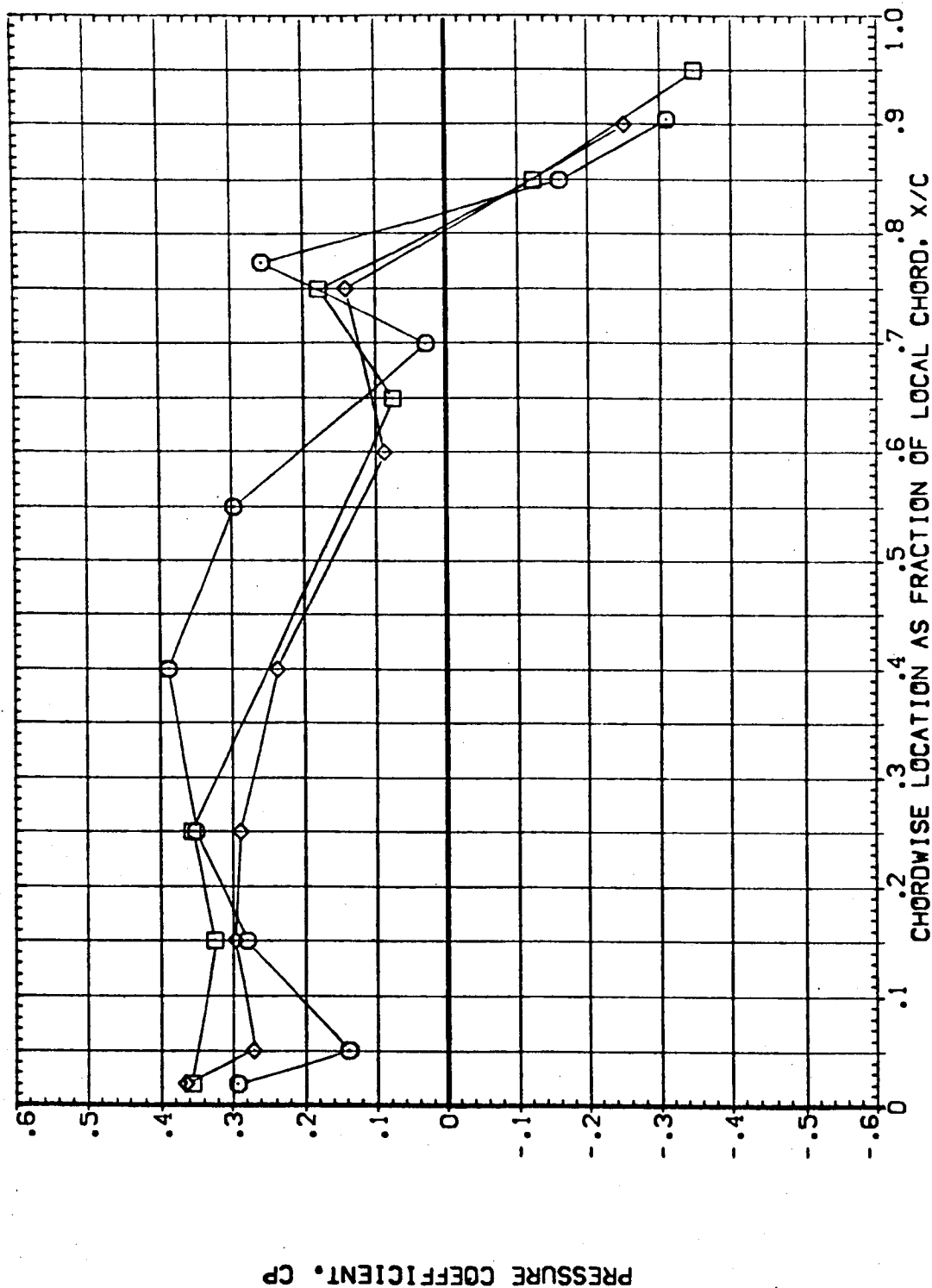


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW04)

SYMBOL	2N/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-09	4.000
○	.299	.000	-4.000	RUDER	.000	MACH	1.400
□	.364			GIMBAL	1.000		
◇	.427						
>	.534						

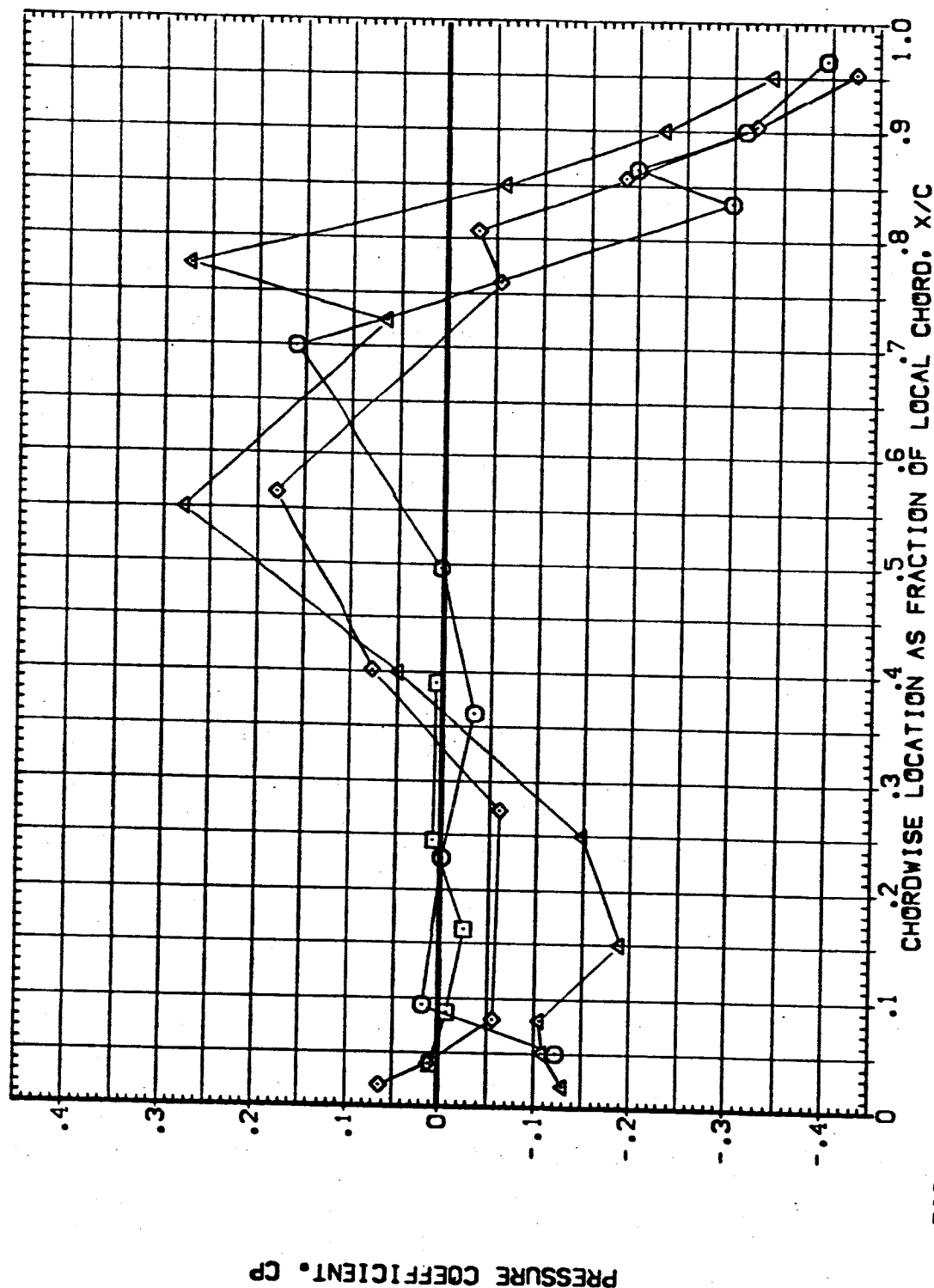


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW04)

SYMBOL $2\gamma/B$ BETA ALPHA

○ .641 .000 -4.000

□ .780

◇ .687

PARAMETRIC VALUES

ELV-18 8.000 ELV-09 4.000

RUDDER .000 MACH 1.400

GIMBAL 1.000

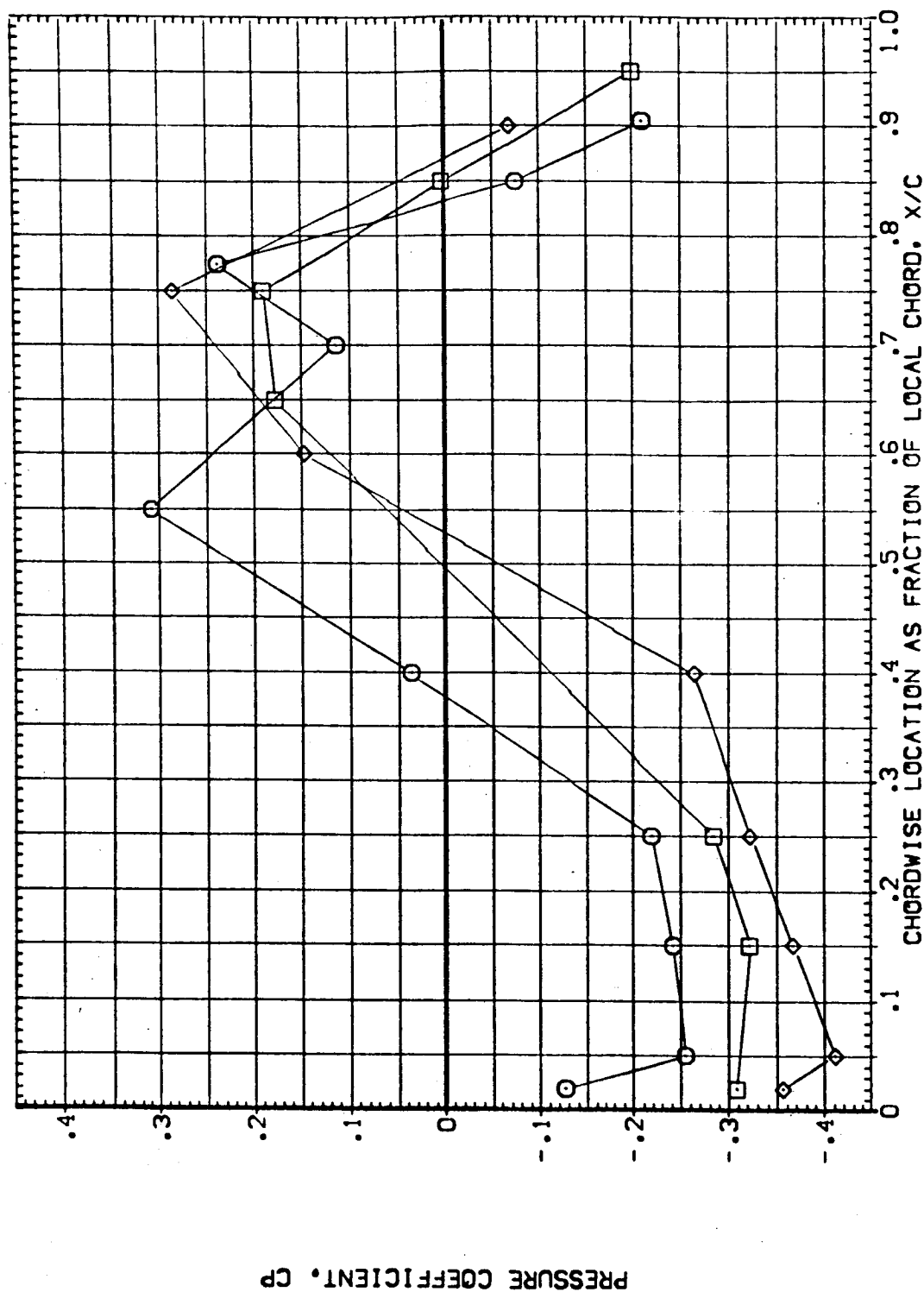


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW04)

SYMBOL	21/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8,000	ELV-08	4,000
○	.289	.000	.000	RUDER	.000	MACH	1.400
□	.364			GIMBAL	1.000		
◇	.427						
△	.534						

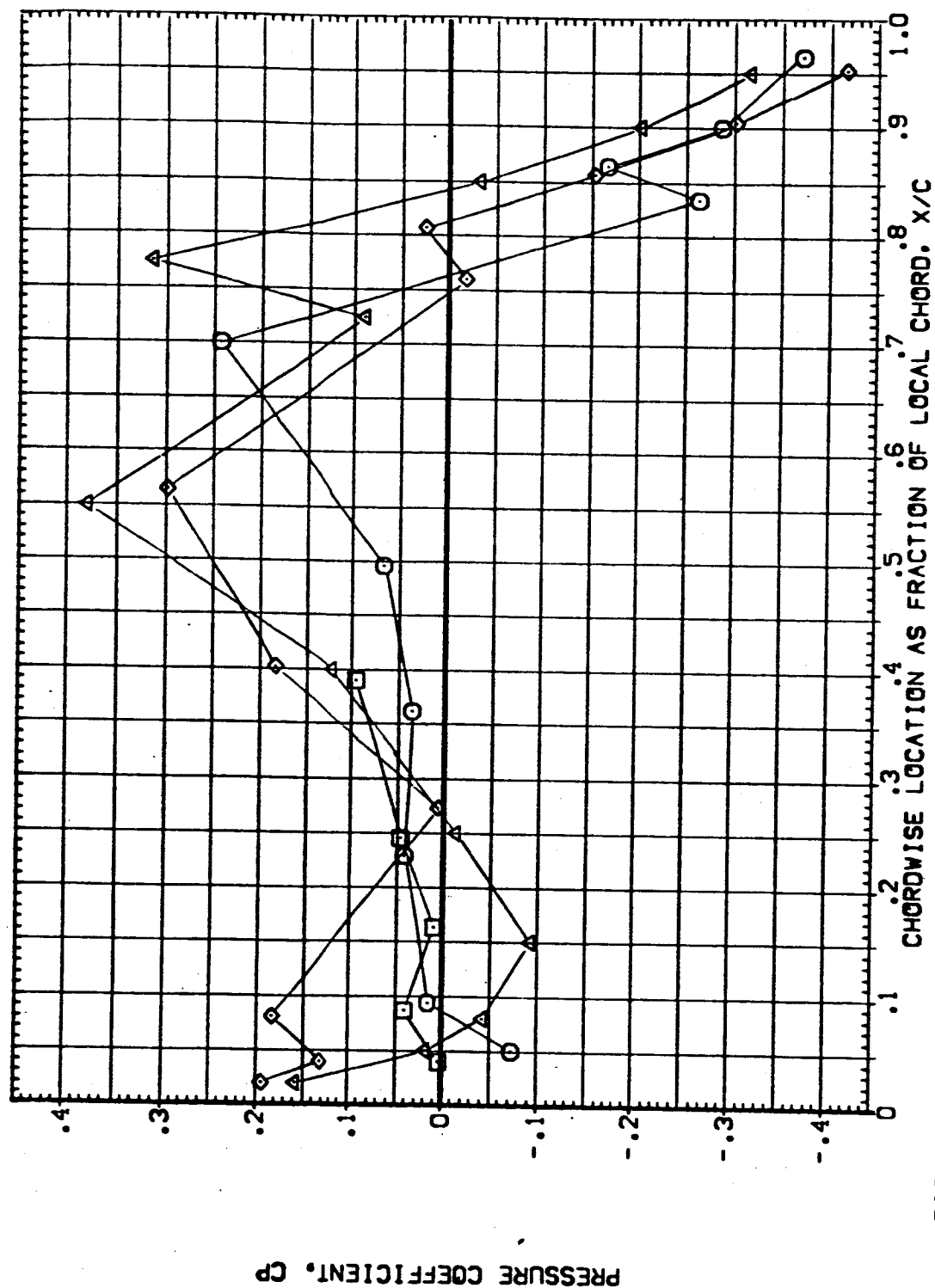


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW04)

SYMBOL	2Y/B	BETA	ALPHA	ELV-19	ELV-08	PARAMETRIC VALUES
○	.641	.000	.000	RUDER	.000	8.000
□	.780	.000	.000	GIMBAL	1.000	1.000
◇	.887					4.000
						1.400

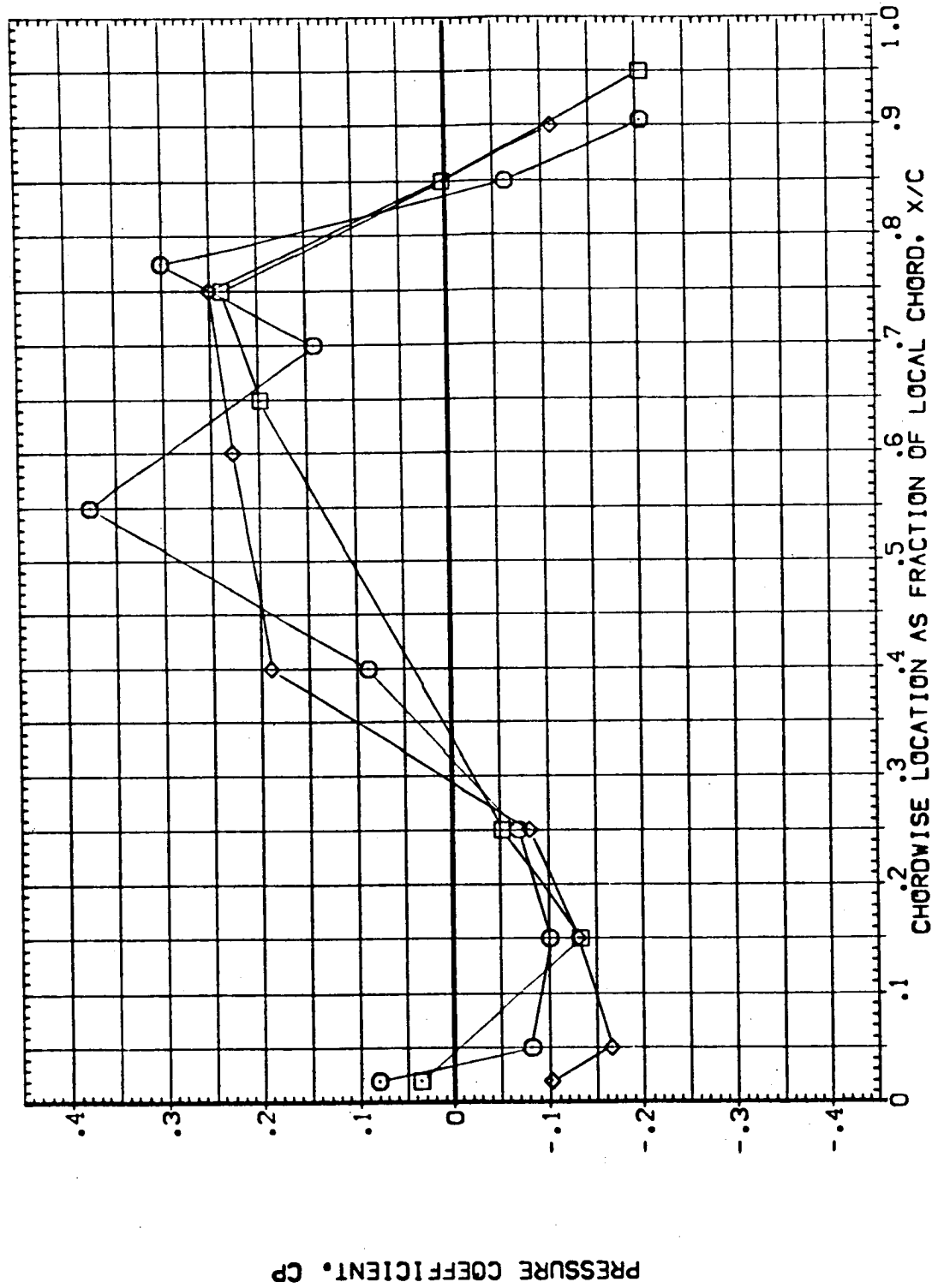


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW04)

SYMBOL ZY/B BETA ALPHA 4.000
 ◊ .299 .000 1.000
 ○ .364 .000 1.000
 △ .427 .000 1.000
 □ .534 .000 1.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

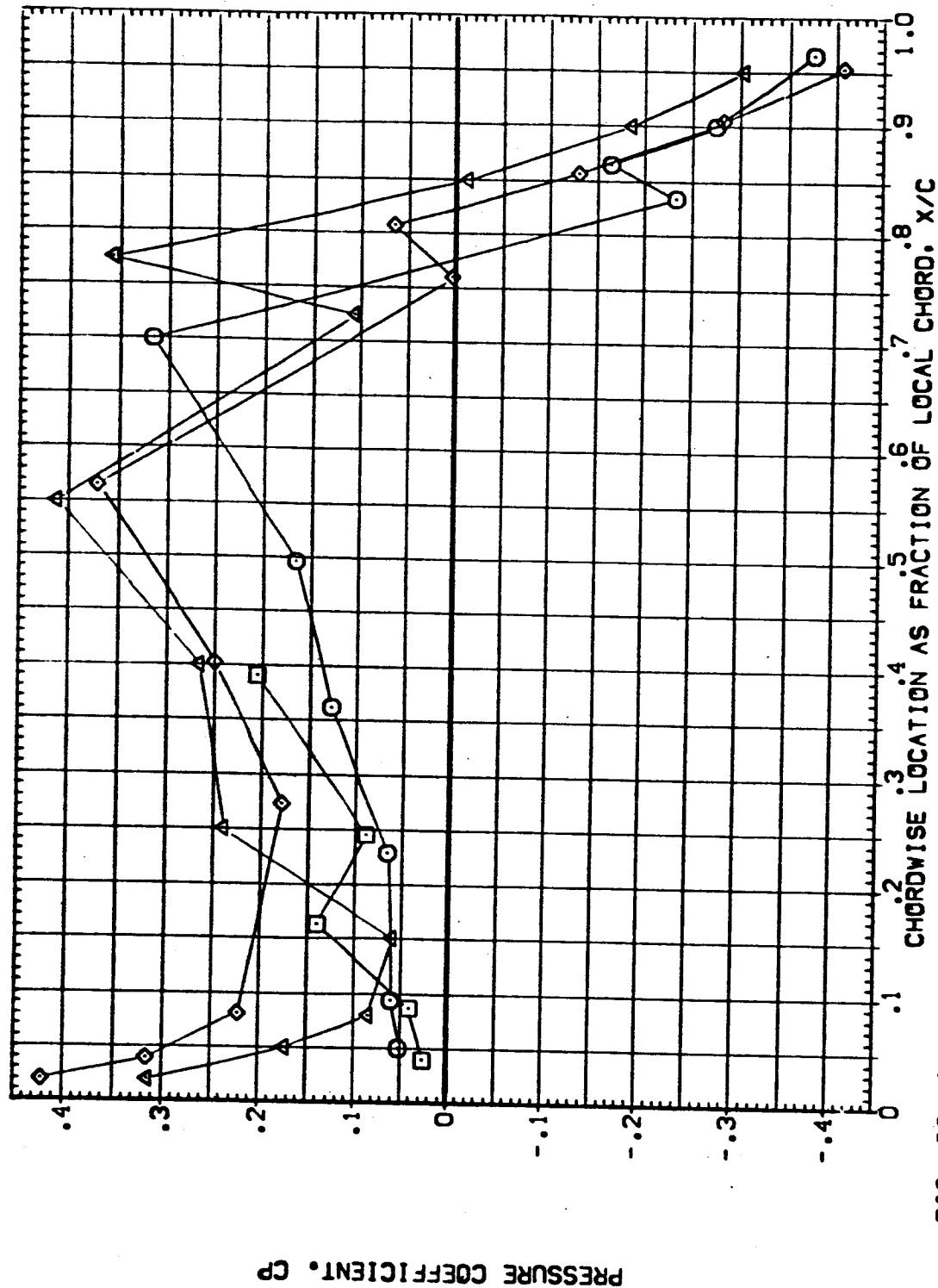


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(BEUW04)

SYMBOL	27/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
◇	.641	.000	4.000	RUDDER	.000	1.000	1.400
□	.780			GIMBAL			
○	.667						

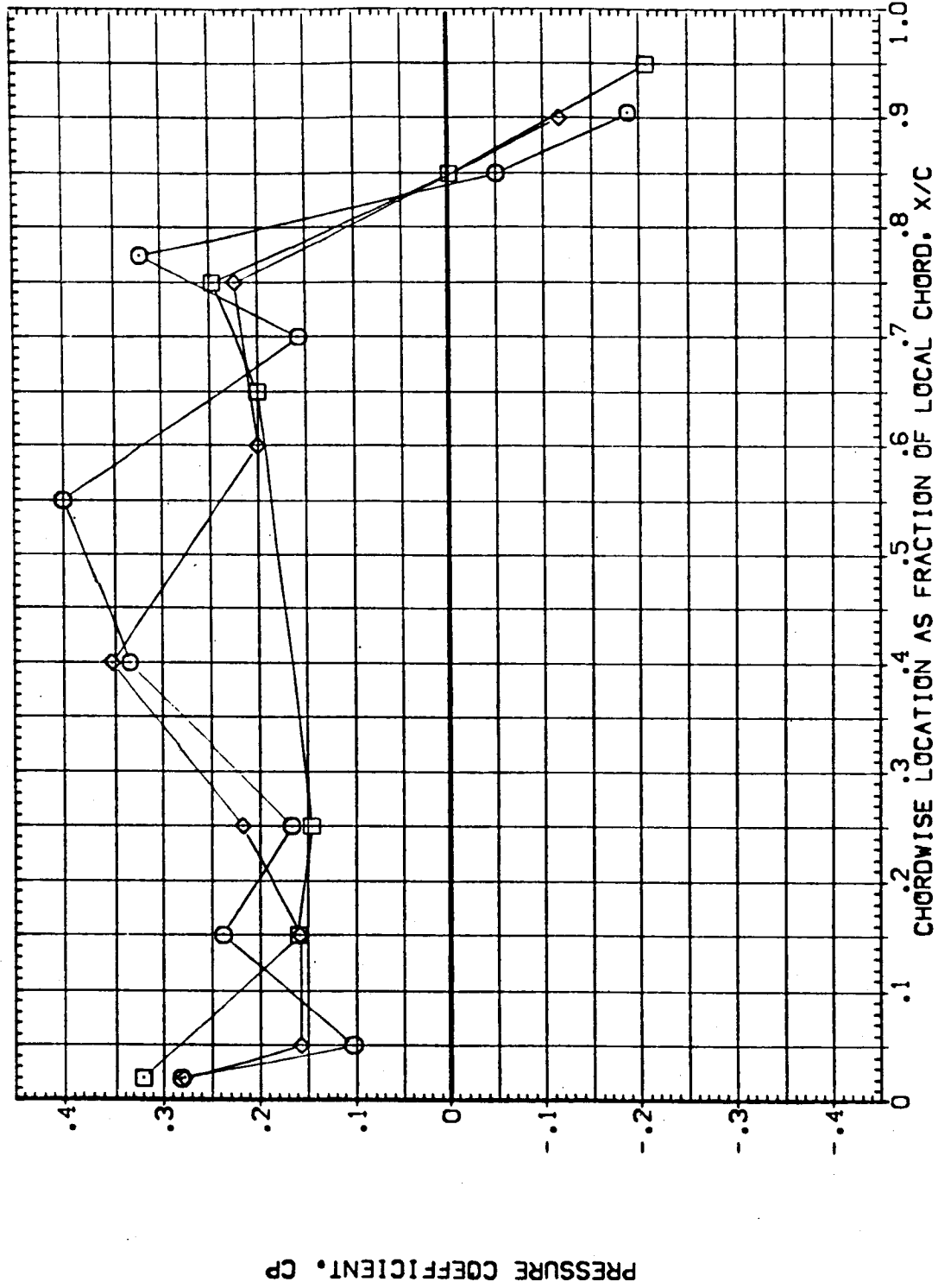


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CEUW04)

SYMBOL	2 γ /8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	ELV-08
∇	.299	-1.000	.000	RUDER	.000	MACH	1.400
\square	.364			GIMBAL	1.000		
\diamond	.427						
\circ	.534						

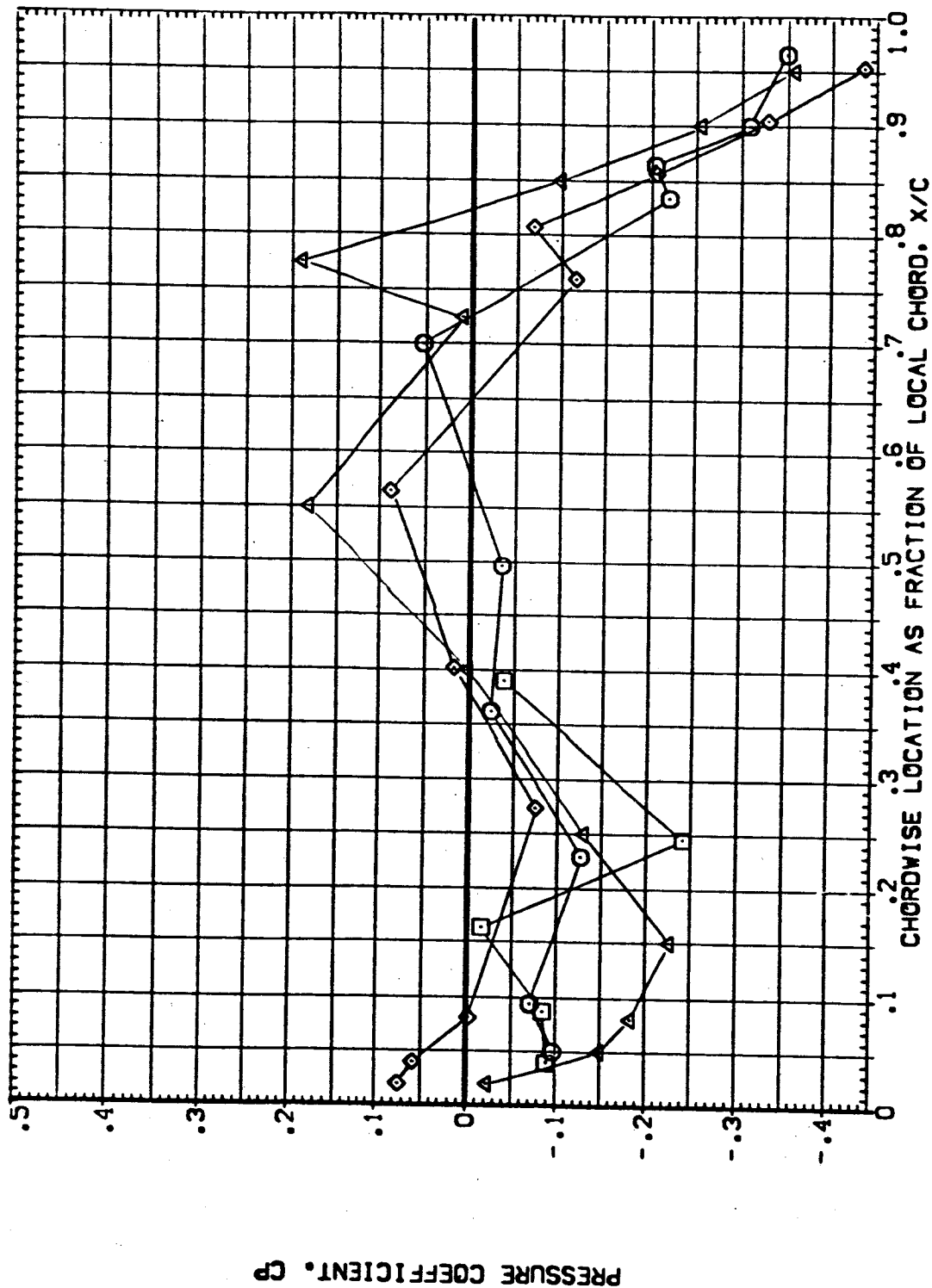


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING (CEUW04)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES
○	.641	-4.000	.000	ELV-18 8.000 ELV-08 4.000
□	.780			RUDER .000 MACH 1.400
◇	.887			GIMBAL 1.000

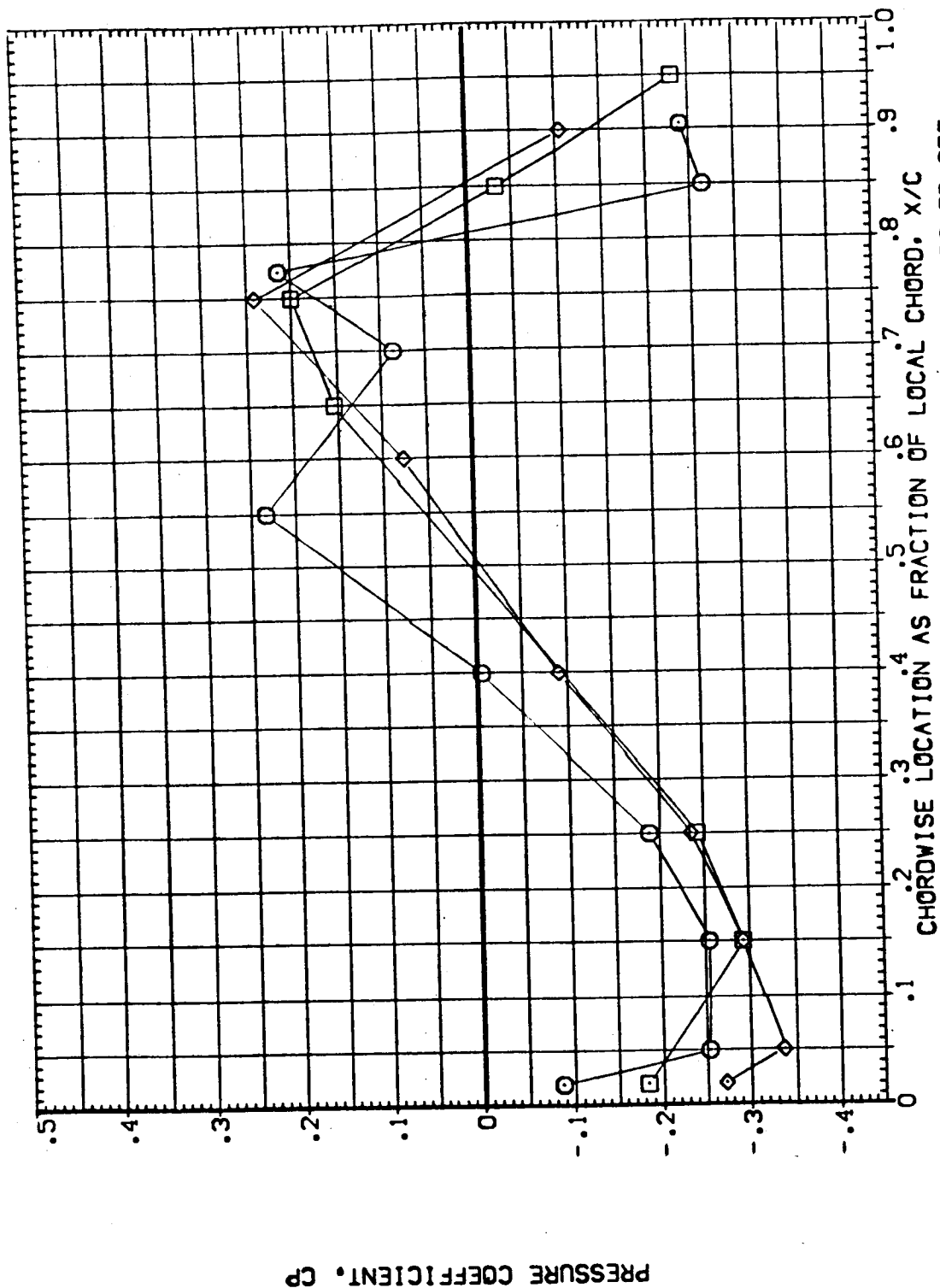


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CEUW04)

SYMBOL	2V/B	BETA	ALPHA	PARAMETRIC VALUES
○	.399	1.000	.000	ELV-18 8.000 ELV-08 4.000
□	.364			RUDER .000 MACH 1.400
◇	.427			
△	.534			

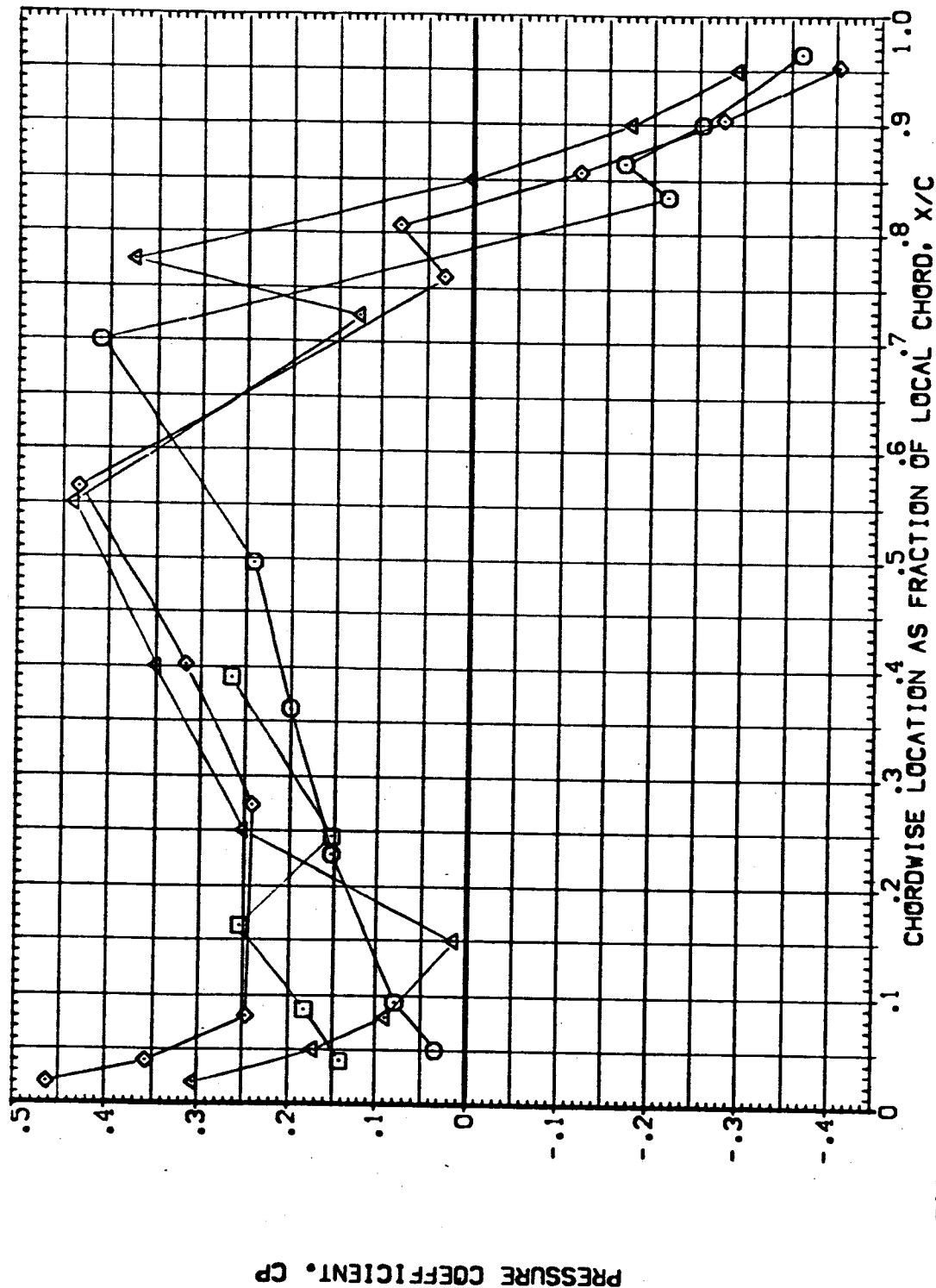


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF LWR WING(CEUW04)

SYMBOL	21/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.641	1.000	.000	RUDER	.000	1.000	4.000
□	.780			GIMBAL	1.000		1.400
◇	.687						

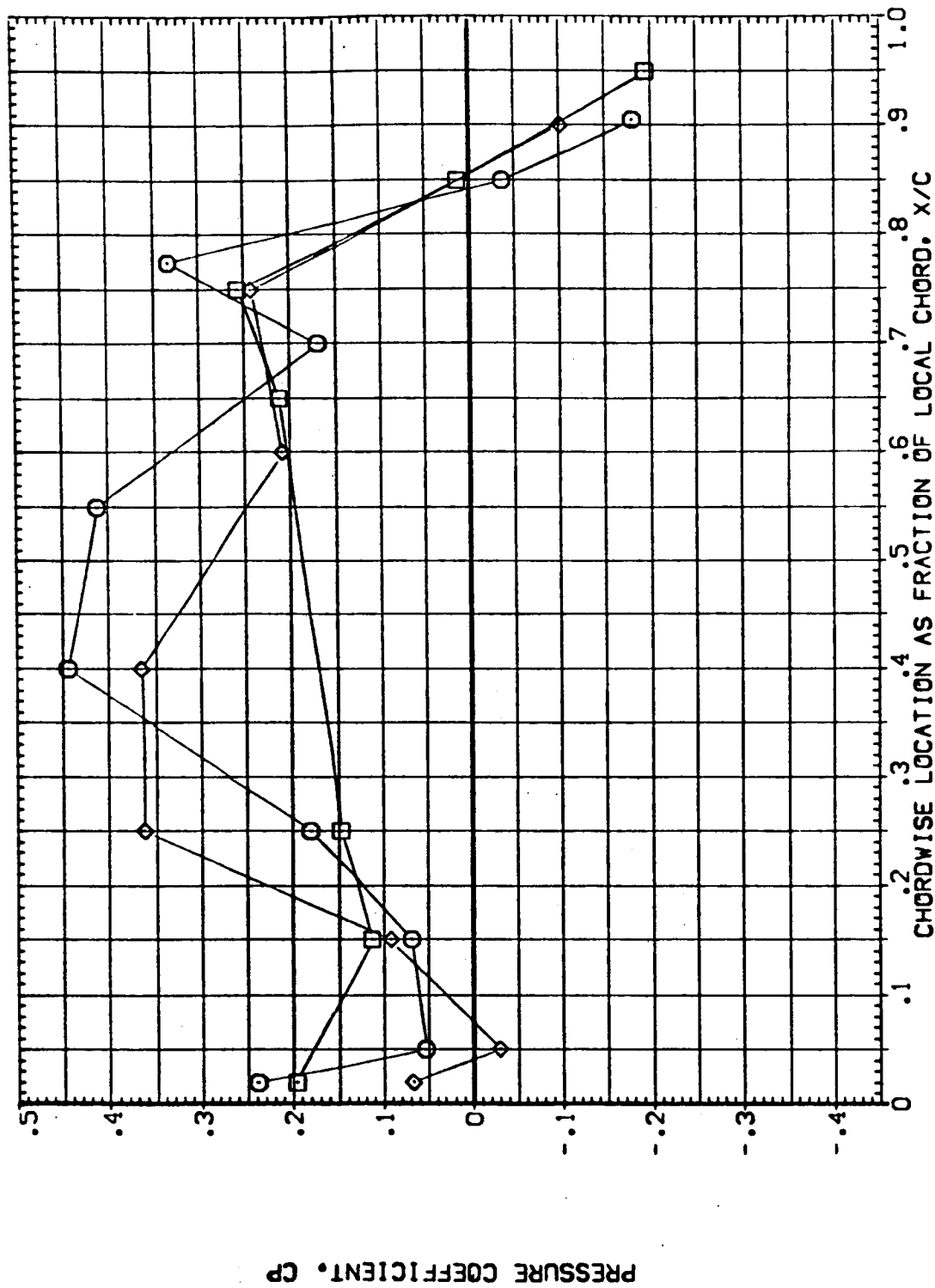


FIG. 96 WING LOWER SURFACE PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW05)

SYMBOL	2V/B	BETA	ALPHA	ELV-18	PARAMETRIC VALUES
◇	.298	.000	-4.000	RUDER	8.000 ELV-09
□	.364			GIMBAL	.000 MACH
△	.427				1.000
	.534				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

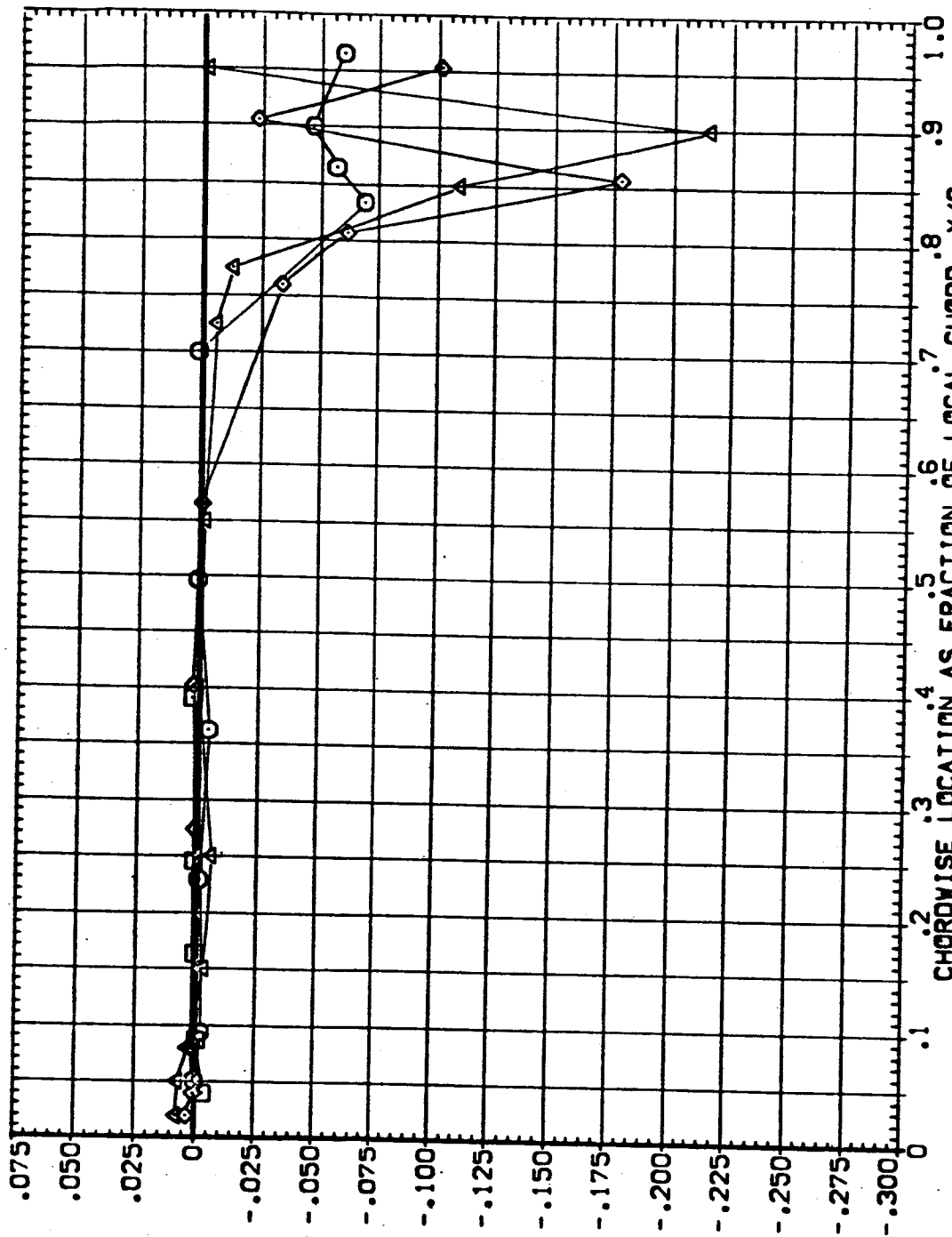


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL	21/B	BETA	ALPHA	PARAMETRIC VALUES
○	.641	.000	-4.000	ELV-18 8.000 ELV-08 4.000
□	.780			RUDER .000 MACH .900
◇	.687			GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

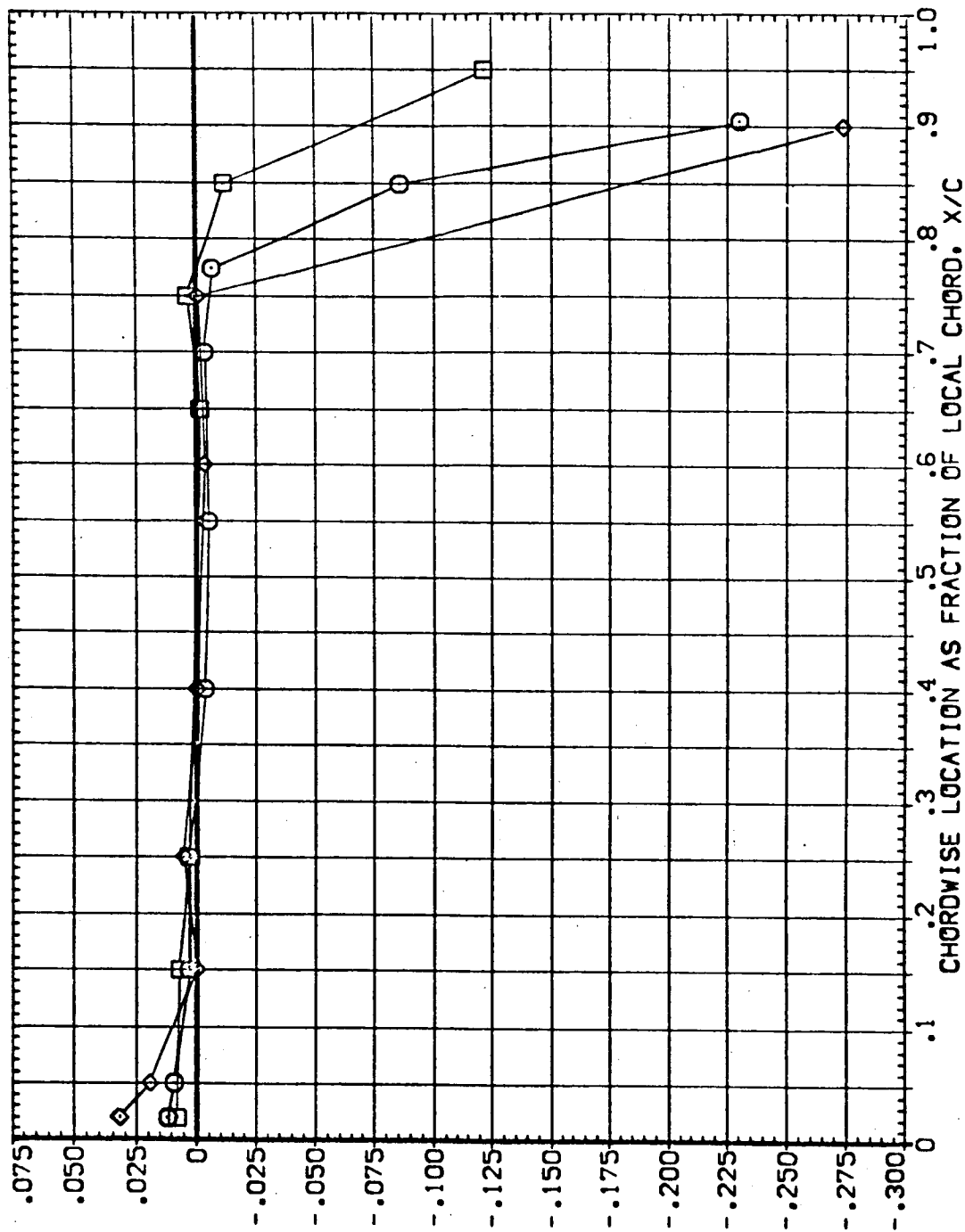


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EUUW05)

SYMBOL 21/8 BETA ALPHA

□ .299 .000 .000

◇ .364 .000 .000

◇ .427 .000 .000

◇ .534 .000 .000

PARAMETRIC VALUES

ELV-18 8.000 ELV-09 4.000

RUDER .000 MACH .900

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

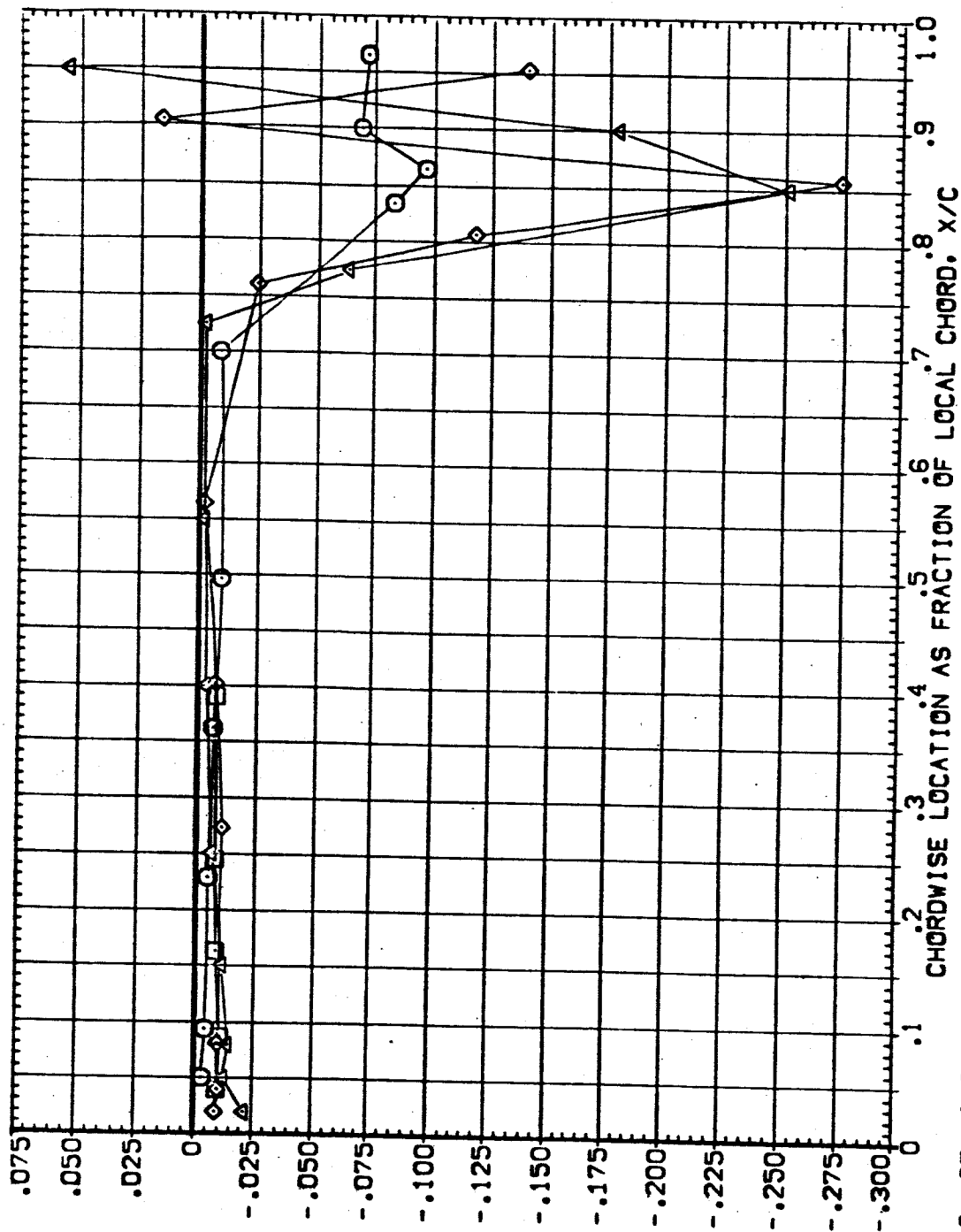


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL	2N/B	BETA	ALPHA	ELV-18	PARAMETRIC VALUES
○	.641	.000	.000	RUDER	8.000 ELV-08
□	.780	.000	.000	GIMBAL	.000 MACH
◇	.887	.000	.000		1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

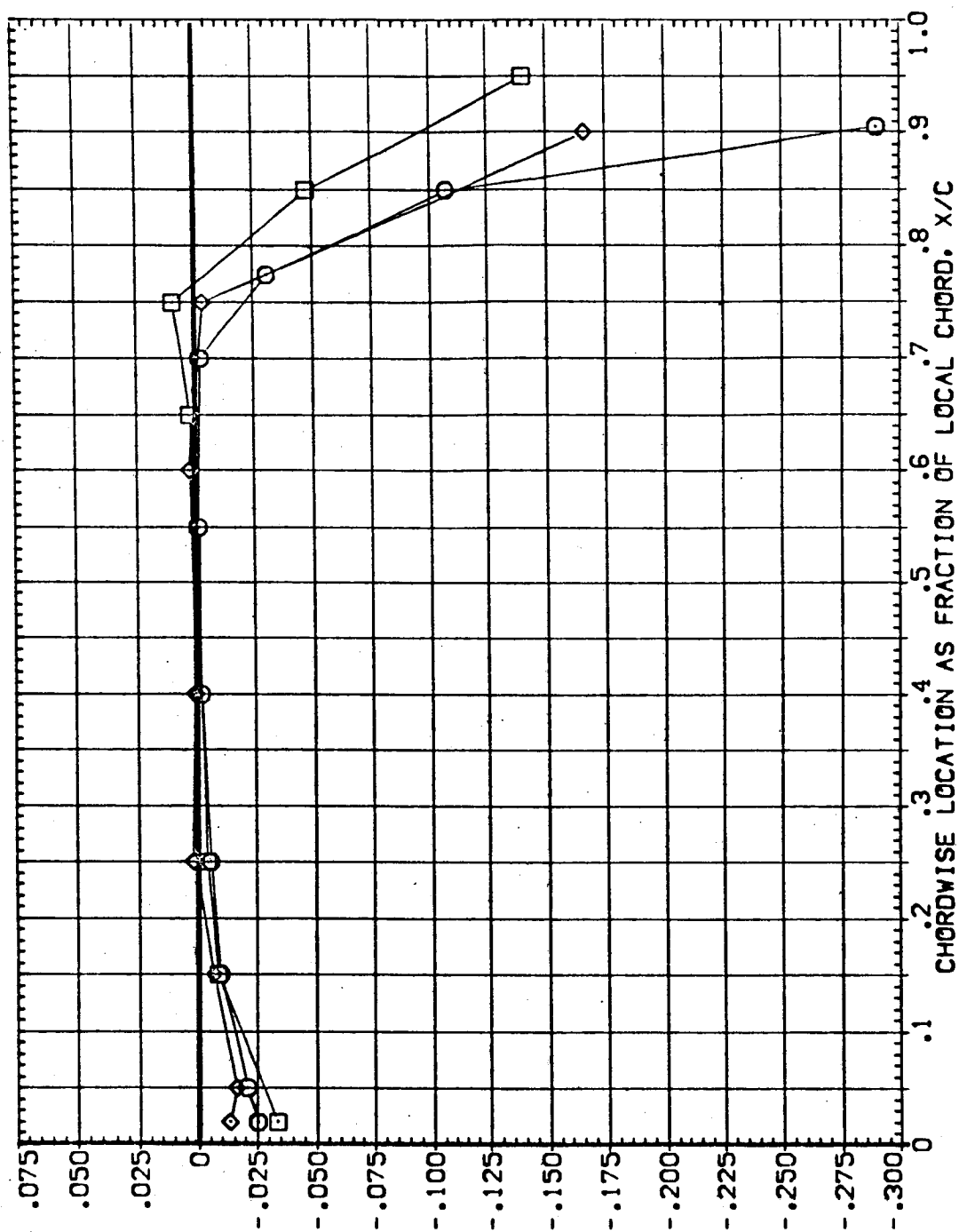


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW05)

SYMBOL 21/8 BETA ALPHA
 ○ .239 .000 4.000
 □ .364 .000 4.000
 ◇ .427 .000 4.000
 △ .534 .000 4.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

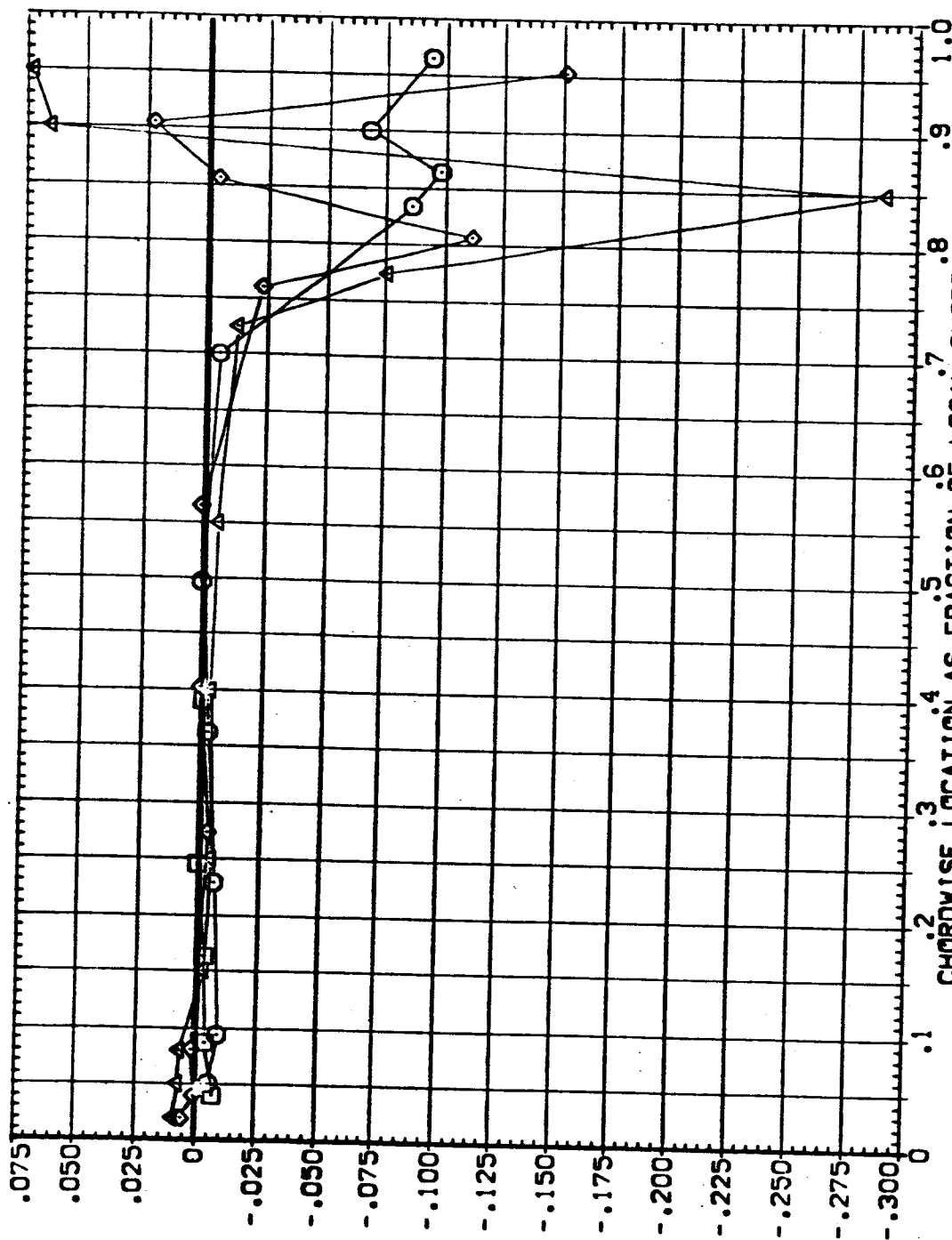


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW05)

SYMBOL	Z/Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.641	.000	4.000	8.000	1.000	4.000	
□	.780			RUDDER		.900	
◇	.687			GIMBAL			

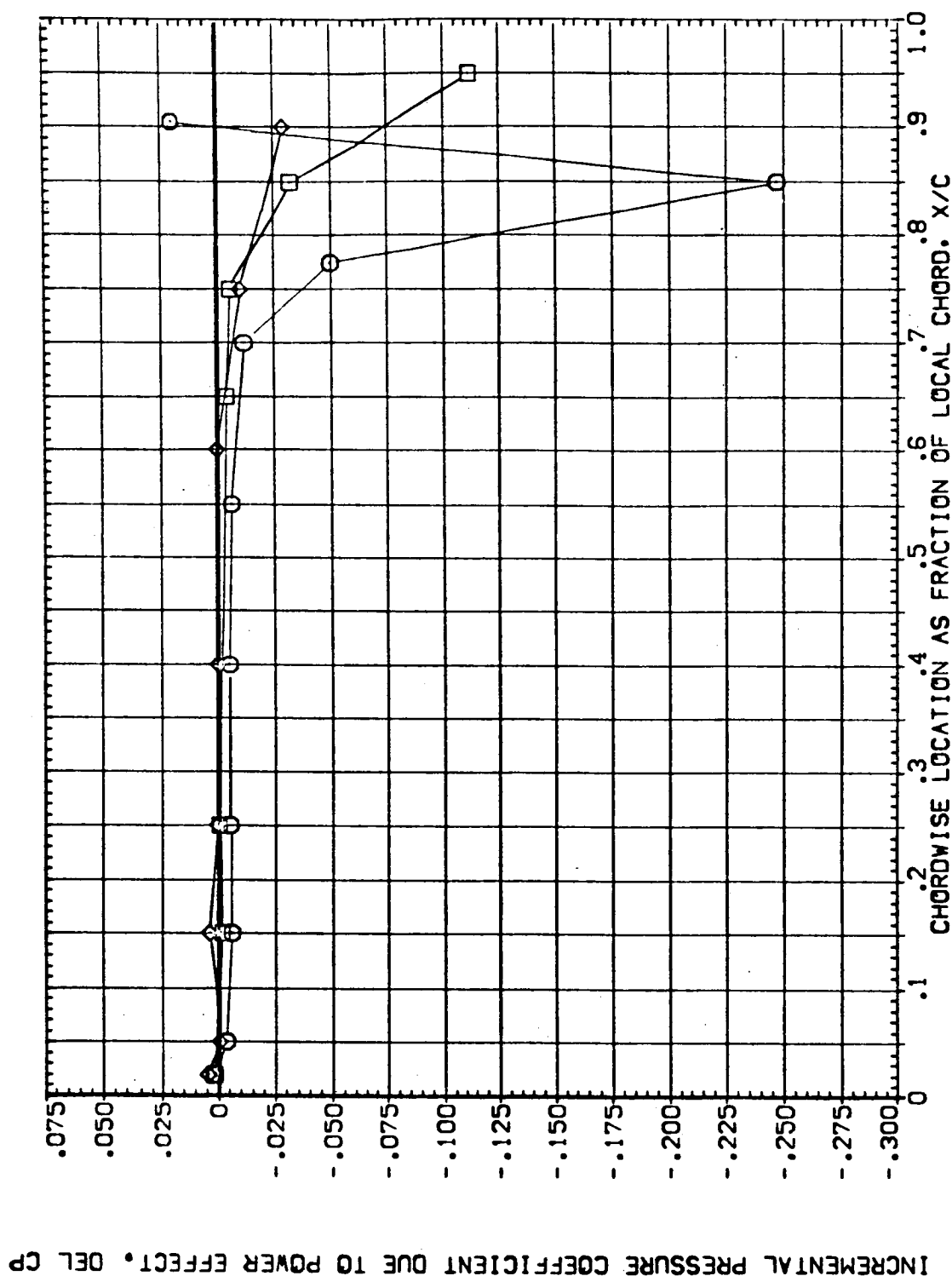


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW05)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.299	-4.000	.000	8.000	1.000	1.000	1.000
□	.364			RUDDER			.900
◇	.427			GIMBAL			
▽	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

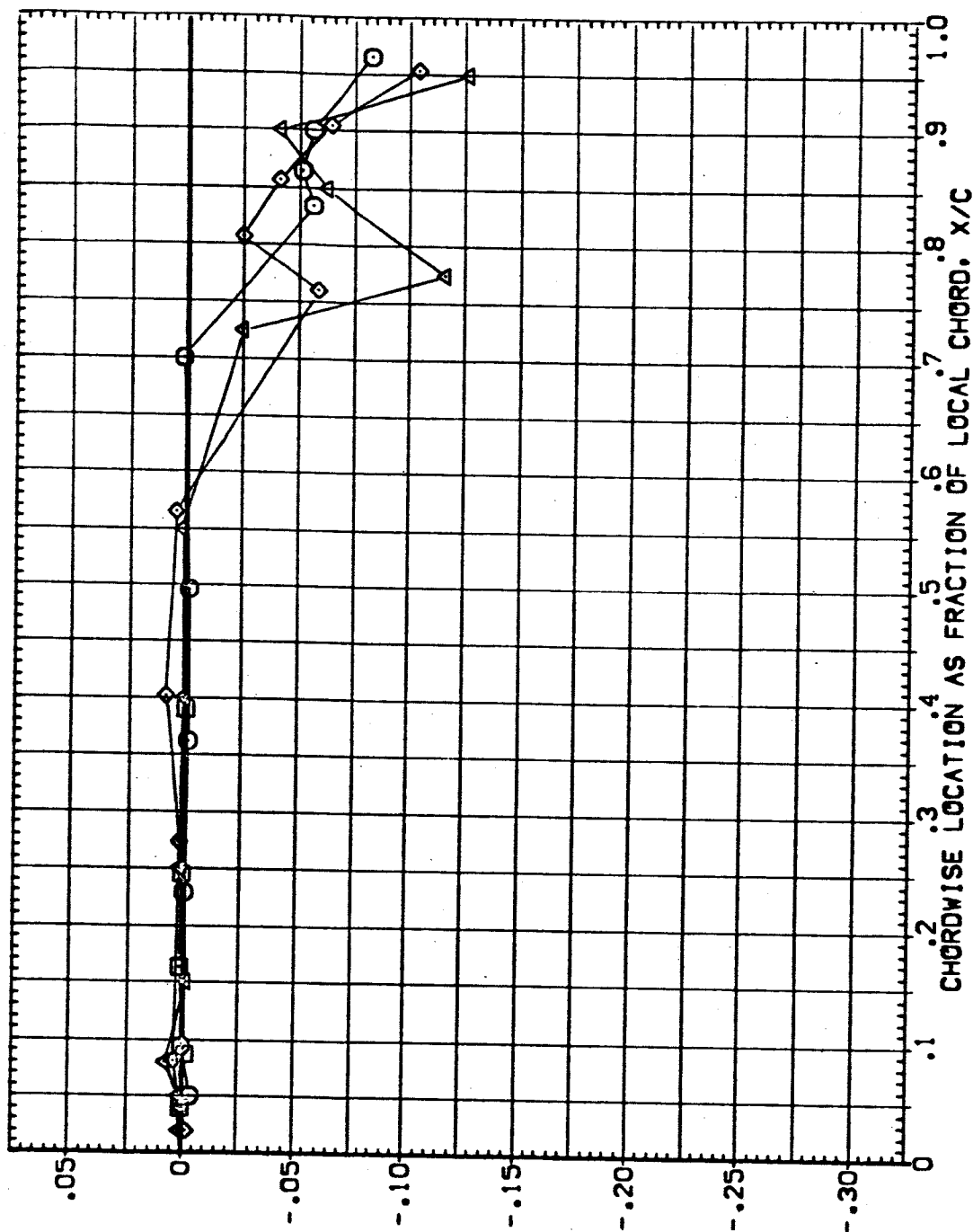


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW05)

SYMBOL	2N/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.641	-4.000	.000	RUDER	.000	1.000	
□	.780			GIMBAL	1.000		
◇	.887						

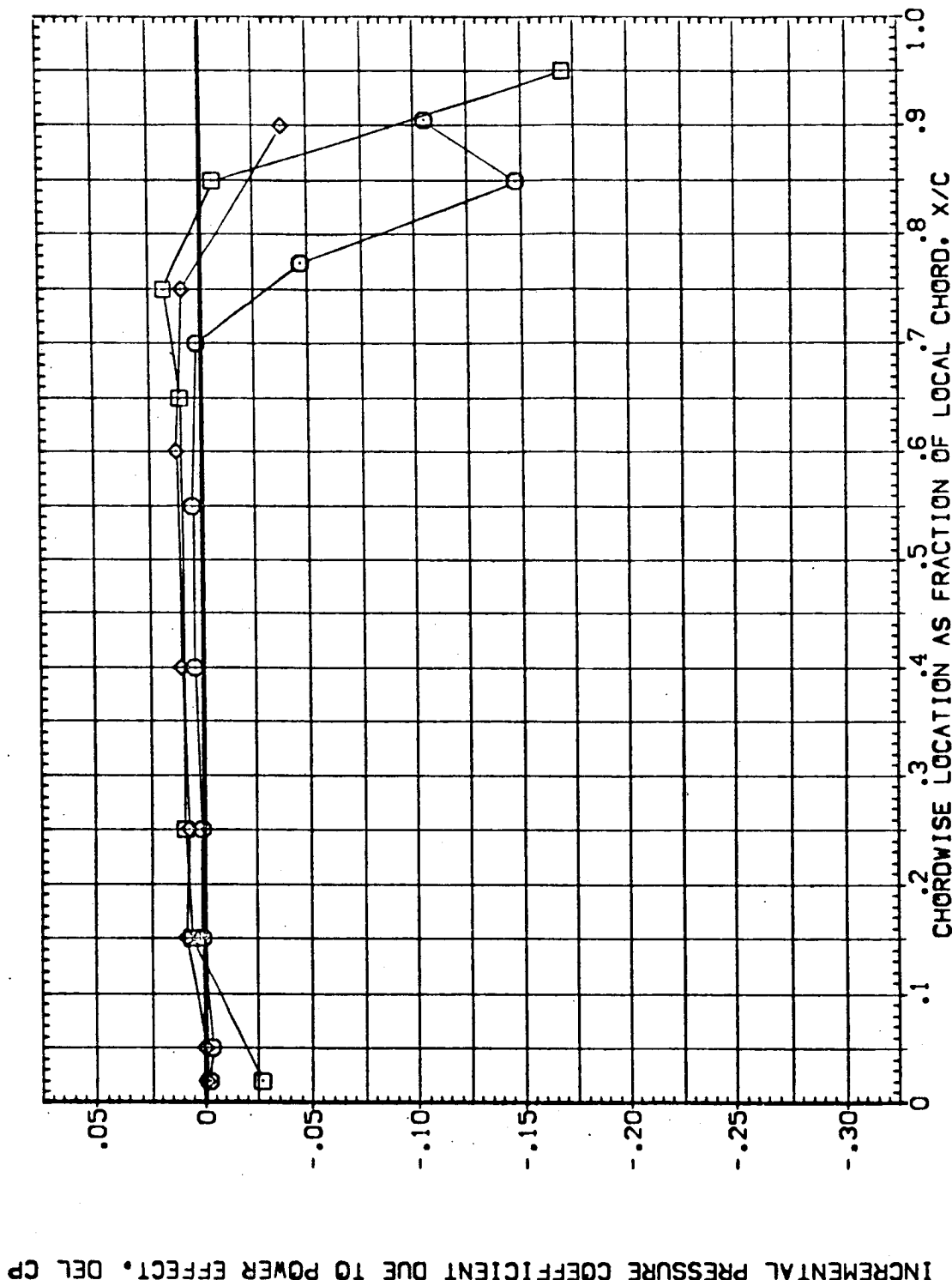


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW05)

SYMBOL	21/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.299	1.000	.000	RUDER	.000	MACH	.900
□	.364			GIMBAL	1.000		
◇	.427						
△	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

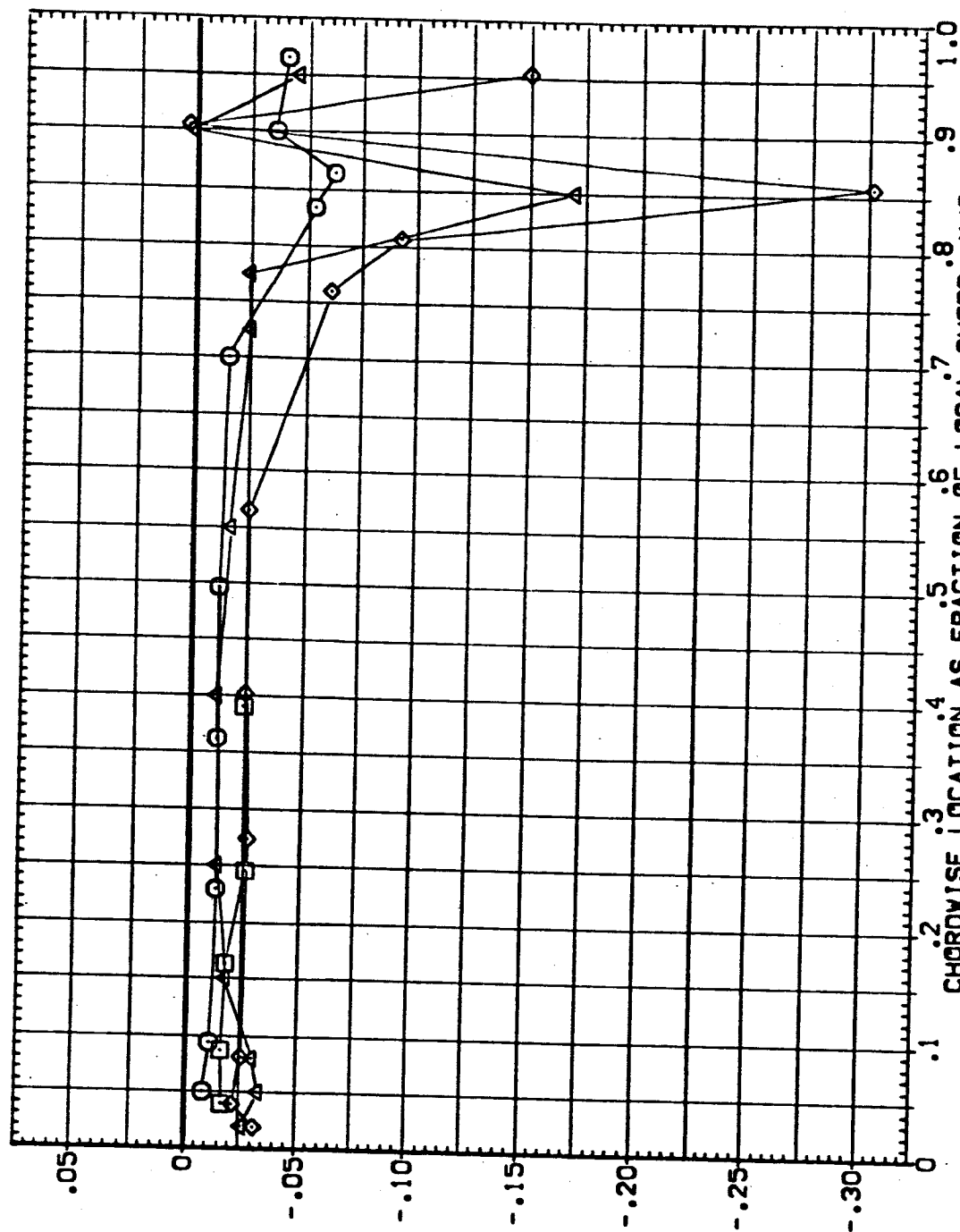


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW05)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	
○	.641	4.000	.000	RUDDER	.000	MACH	1.000
□	.780			GIMBAL	1.000		
◇	.687						

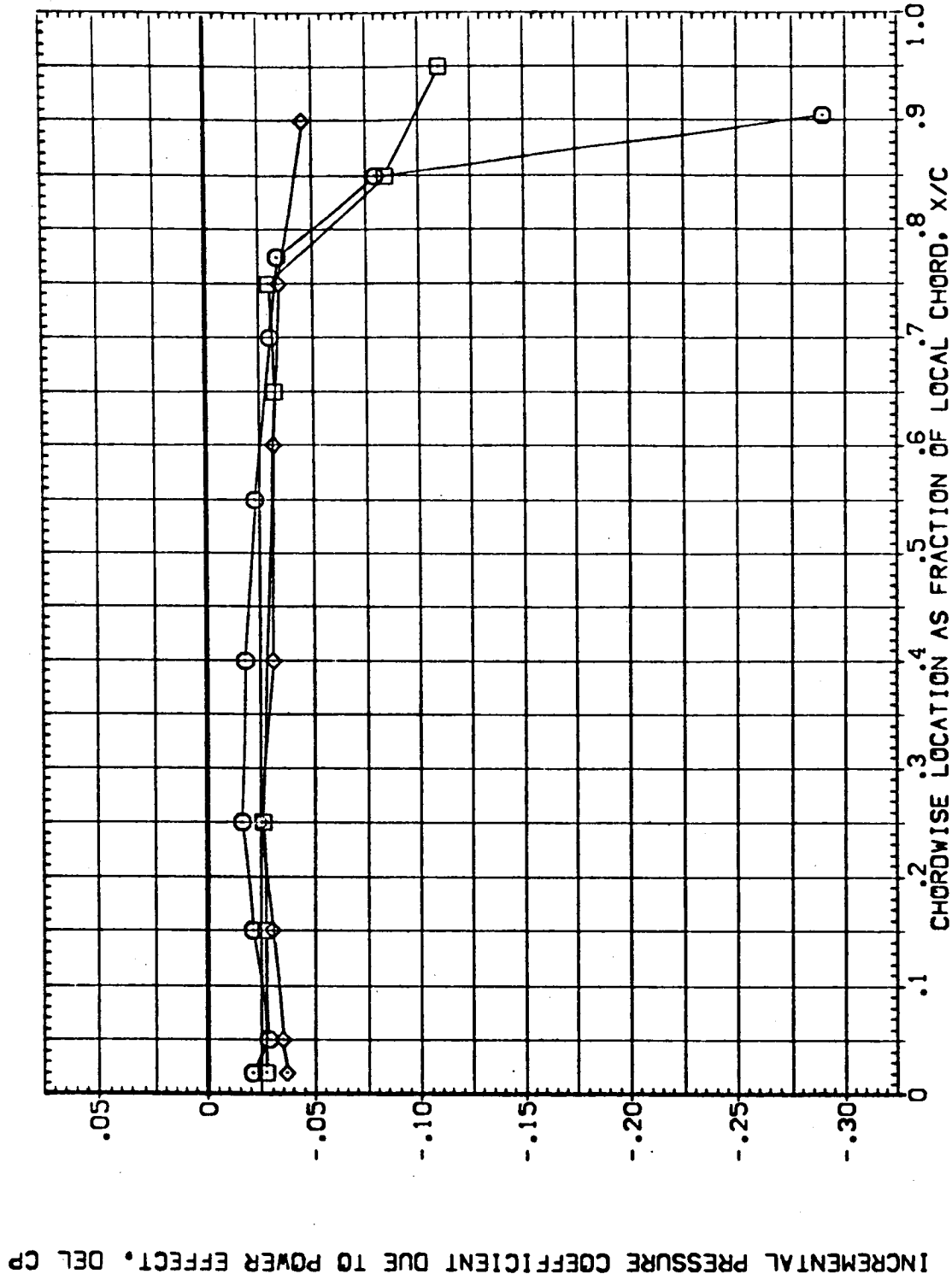


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW06)

SYMBOL	Z1/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.299	.000	-4.000	ELV-18	ELV-08	MACH	
□	.364	.000	-4.000	RUDER	.000	1.000	4.000
◇	.427	.000	-4.000	GIMBAL	1.000	1.000	1.000
△	.534	.000	-4.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

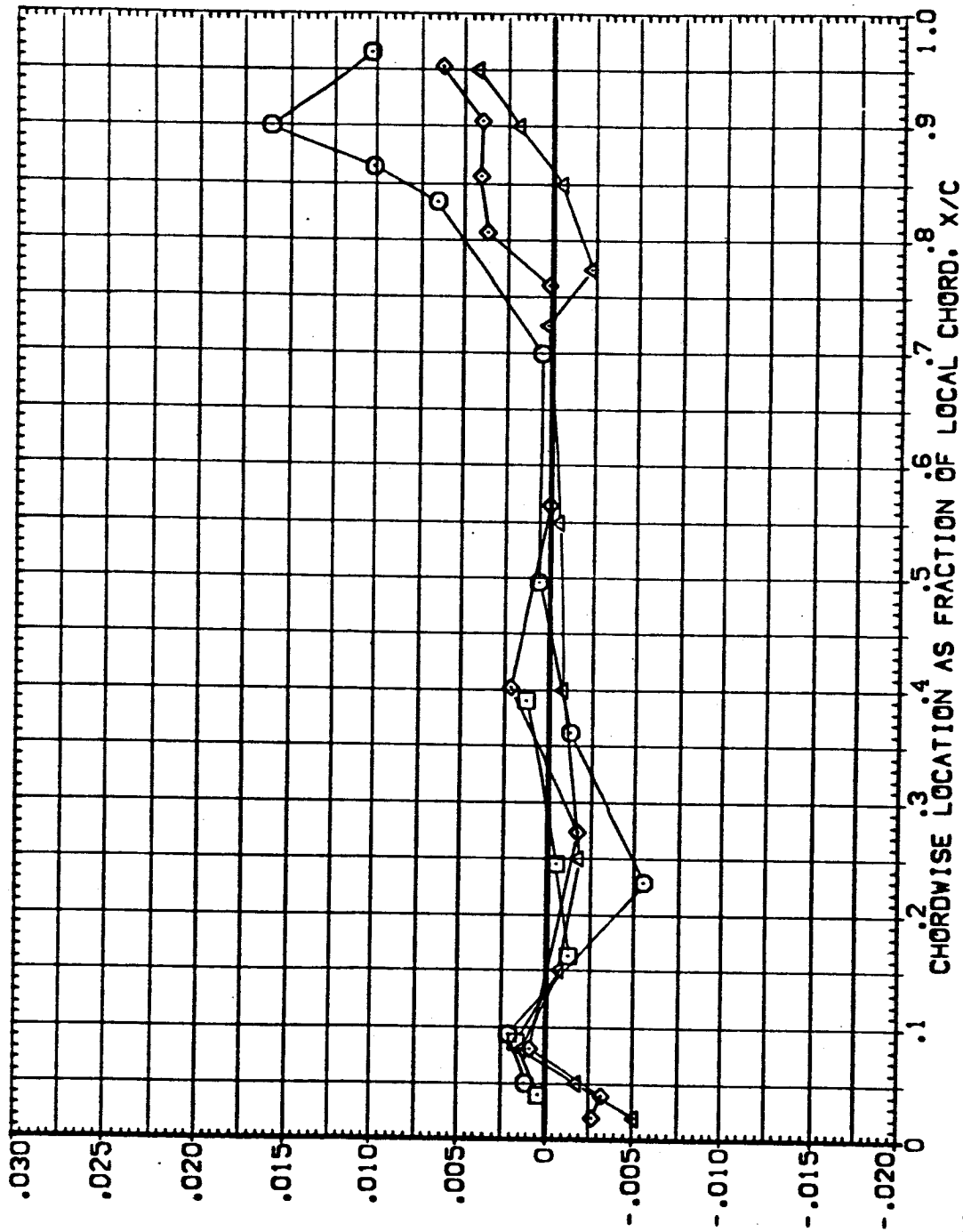


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW06)

SYMBOL	2 γ /8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.641	.000	-4.000	8.000	.000	1.000	4.000
□	.780			RUDDER			1.100
◇	.887			GIMBAL			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

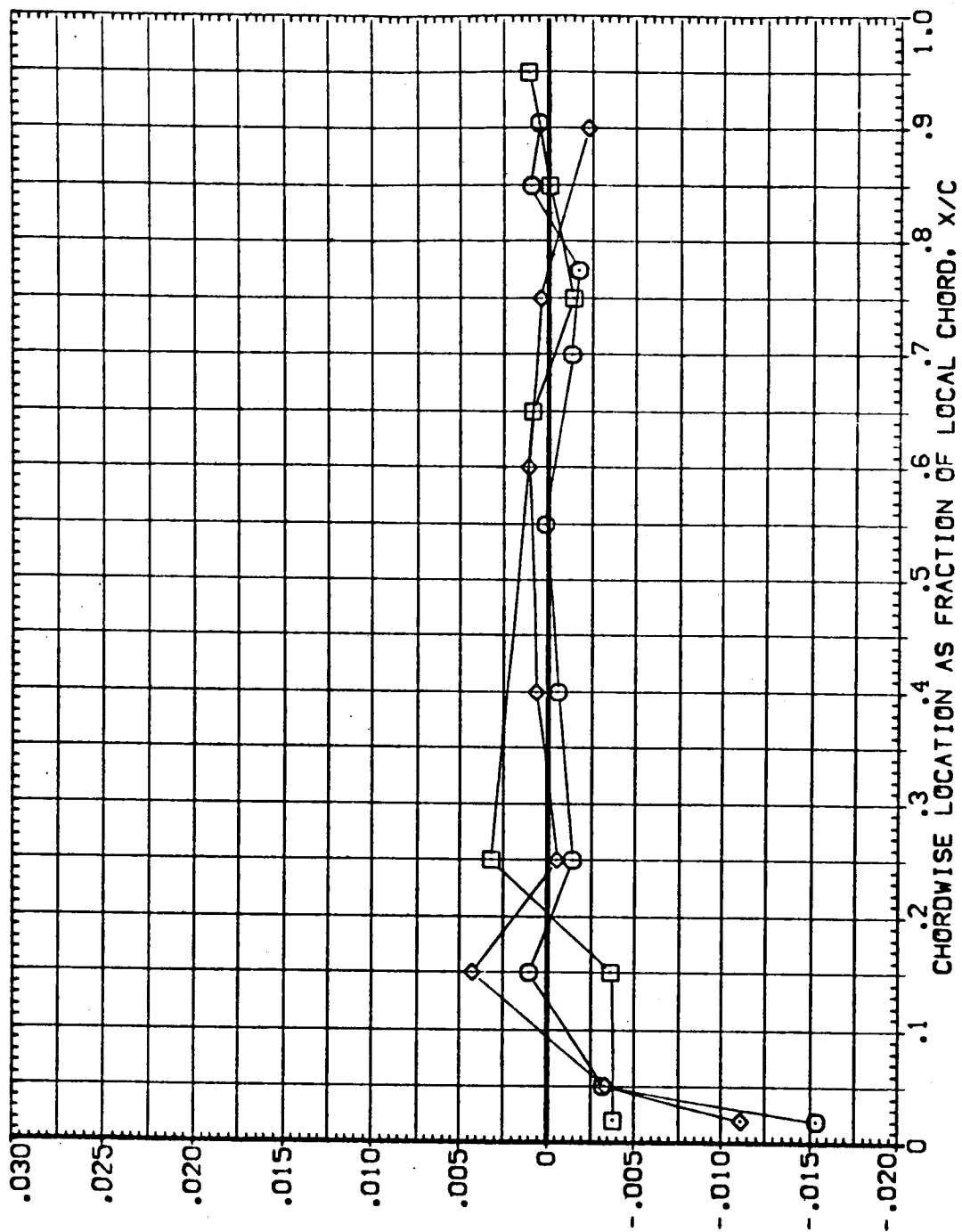


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW06)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ◊ .299
 □ .364
 ◊ .427
 ◊ .534

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

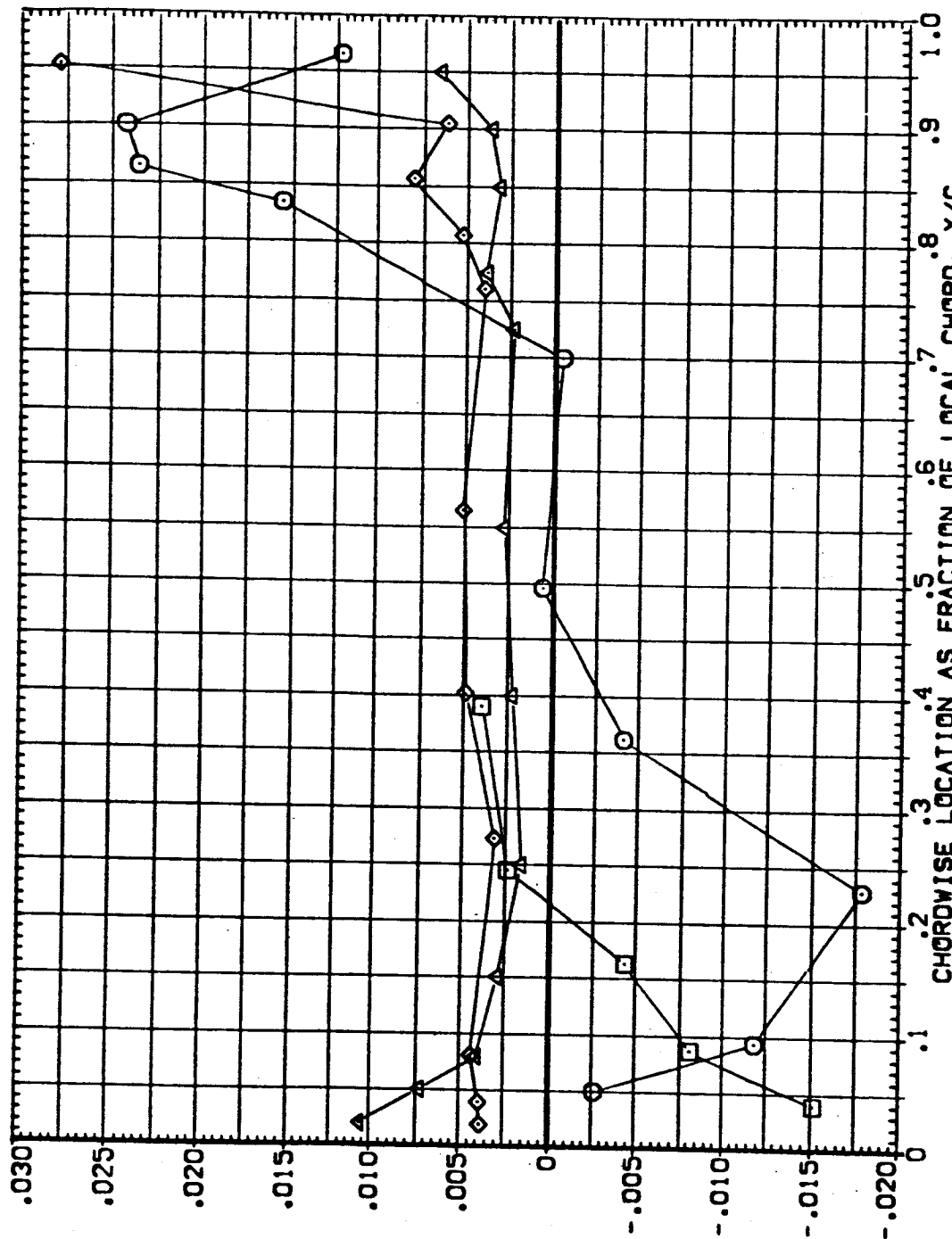


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW06)

SYMBOL	Z1/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-1B	ELV-08	MACH	
○	.641	.000	.000	RUDER	.000	1.000	4.000
□	.780			GIMBAL	1.000		1.100
◇	.887						

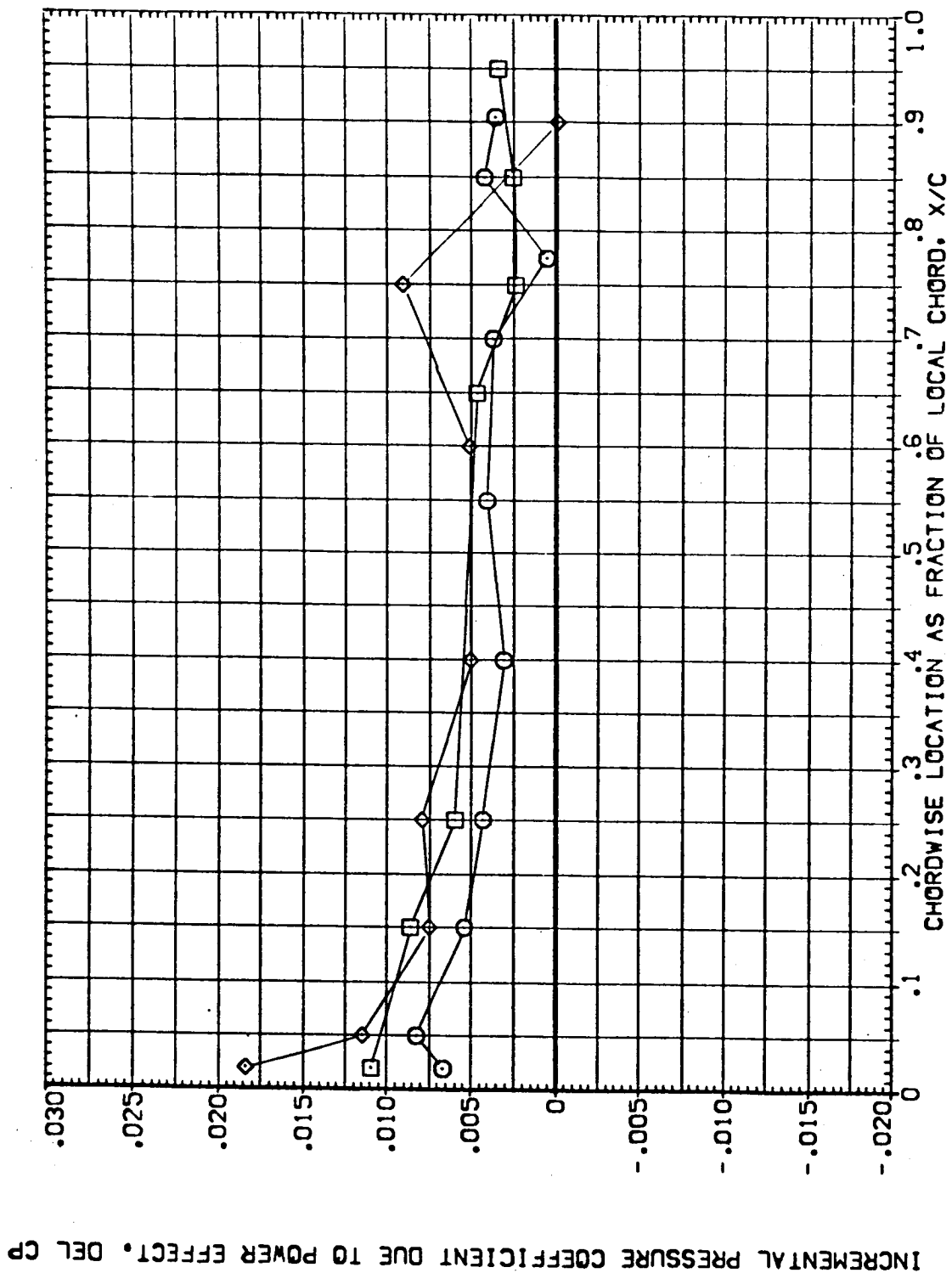


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW06)

SYMBOL 21/8 BETA ALPHA

○ .299 .000 4.000

□ .364 .000 4.000

◇ .427 .000 4.000

△ .534 .000 4.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-09 4.000

RUDDER .000 MACH 1.100

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

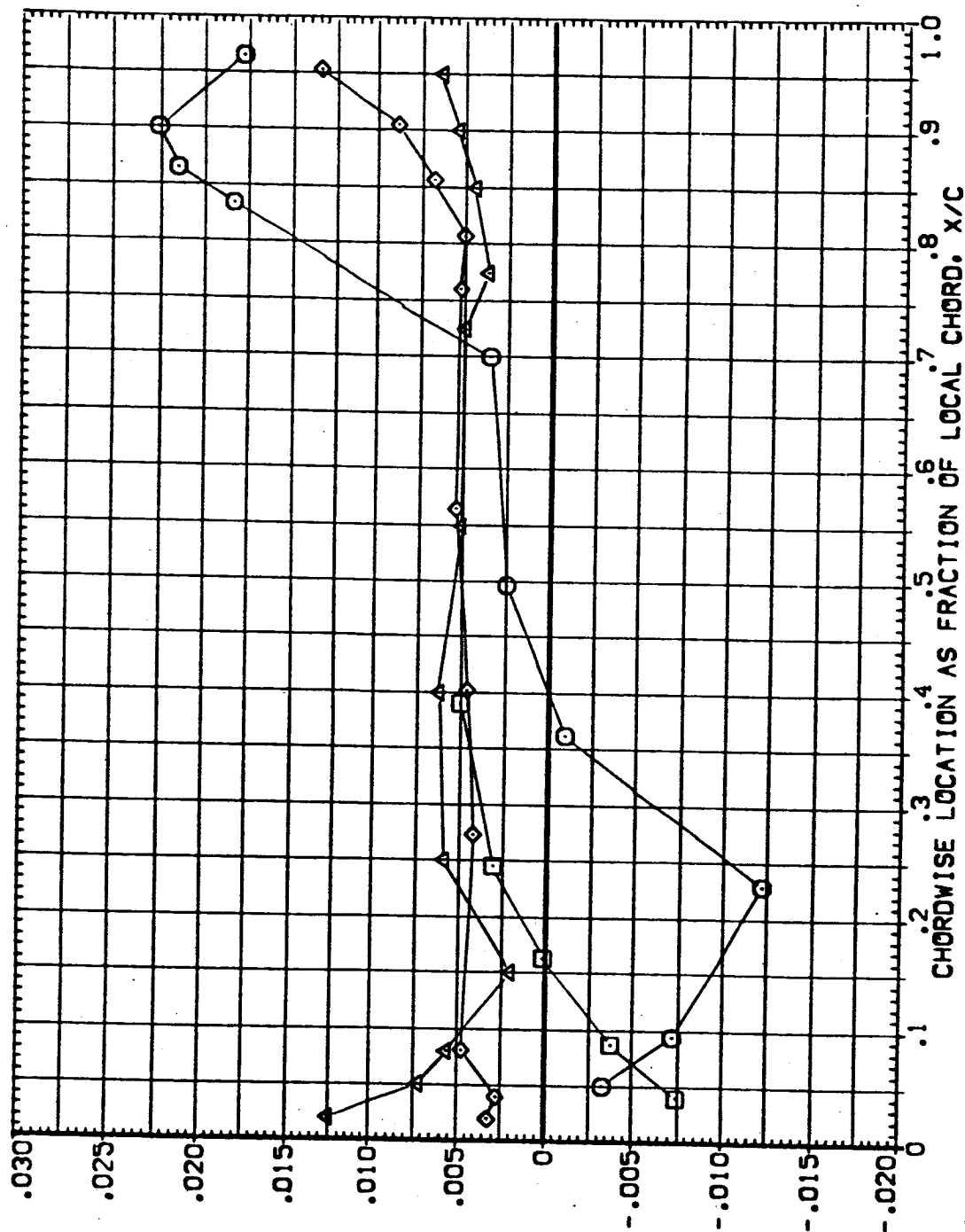


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL	27/8	BETA	ALPHA	PARAMETRIC VALUES
◇	.641	.000	4.000	ELV-18
□	.780			8.000
◇	.687			ELV-08
				.000
				MACH
				1.000
				GIMBAL

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

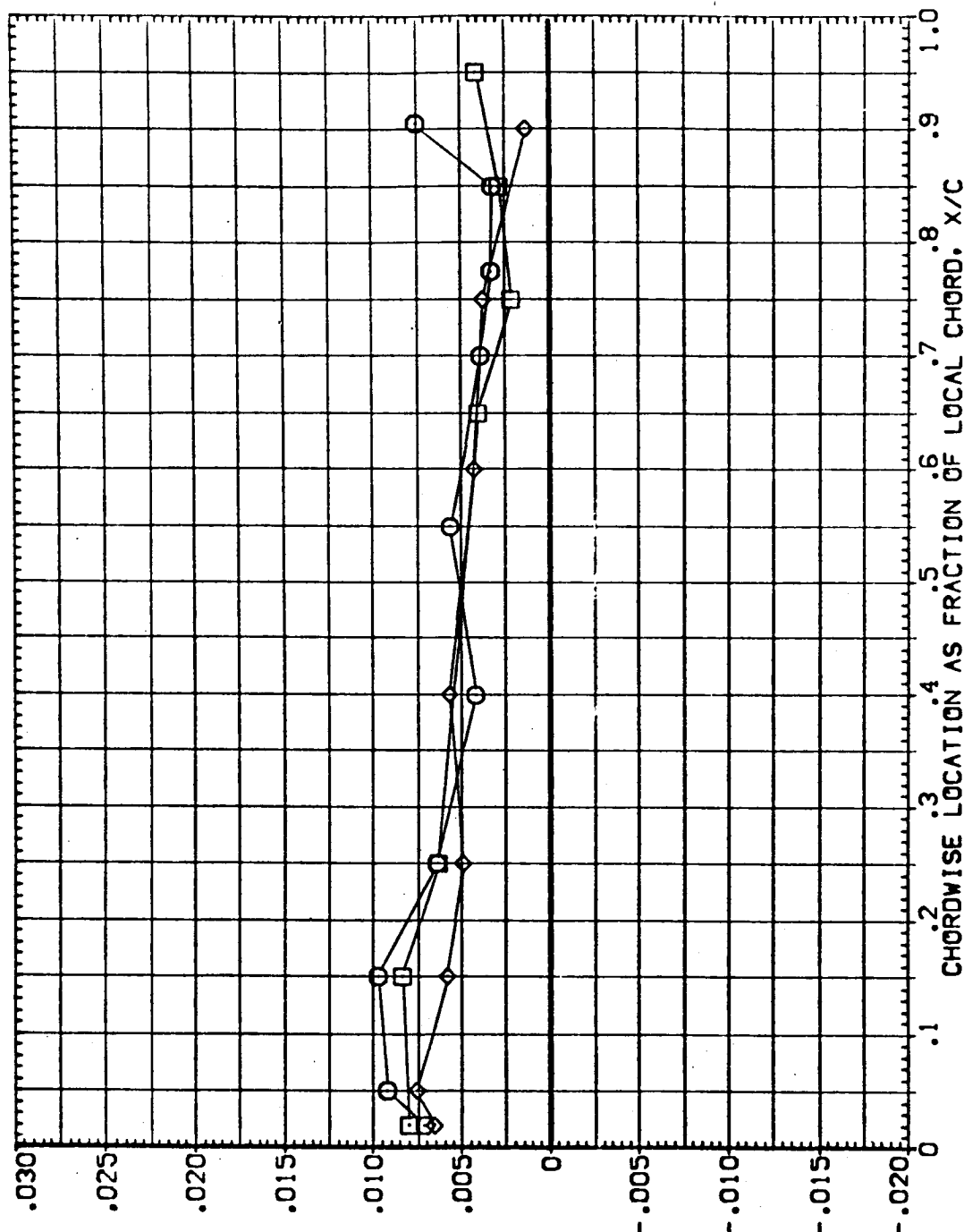


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW06)

SYMBOL
 >◇□◇

2Y/B BETA ALPHA
 .299 -4.000 .000
 .364
 .427
 .534

PARAMETRIC VALUES
 ELV-18 0.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

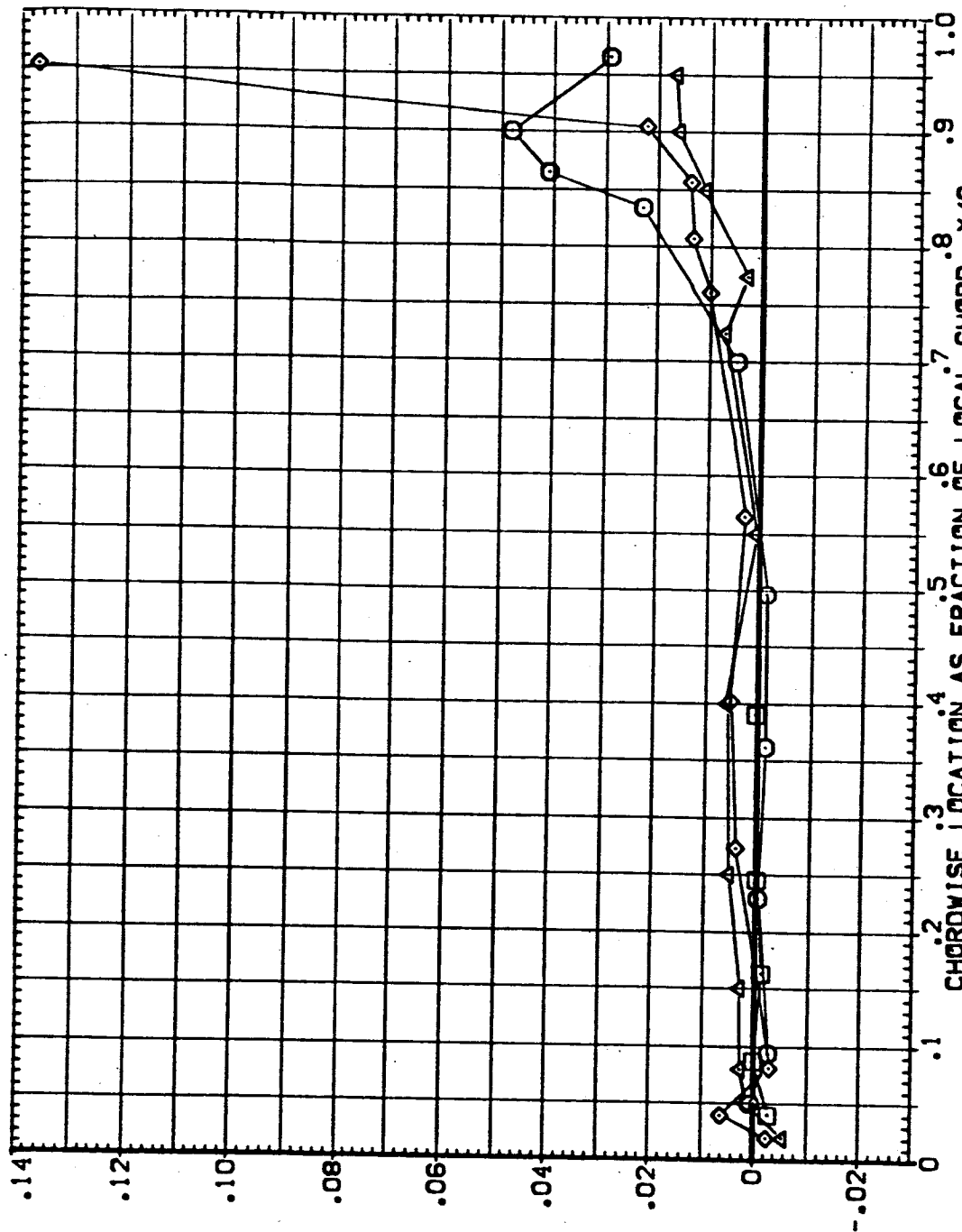


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL	2Y/B	BETA	ALPHA	ELV-18	ELV-08	PARAMETRIC VALUES
○	.641	-4.000	.000	RUDER	.000	8.000
□	.780			GIMBAL	.000	1.100
◇	.687					4.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

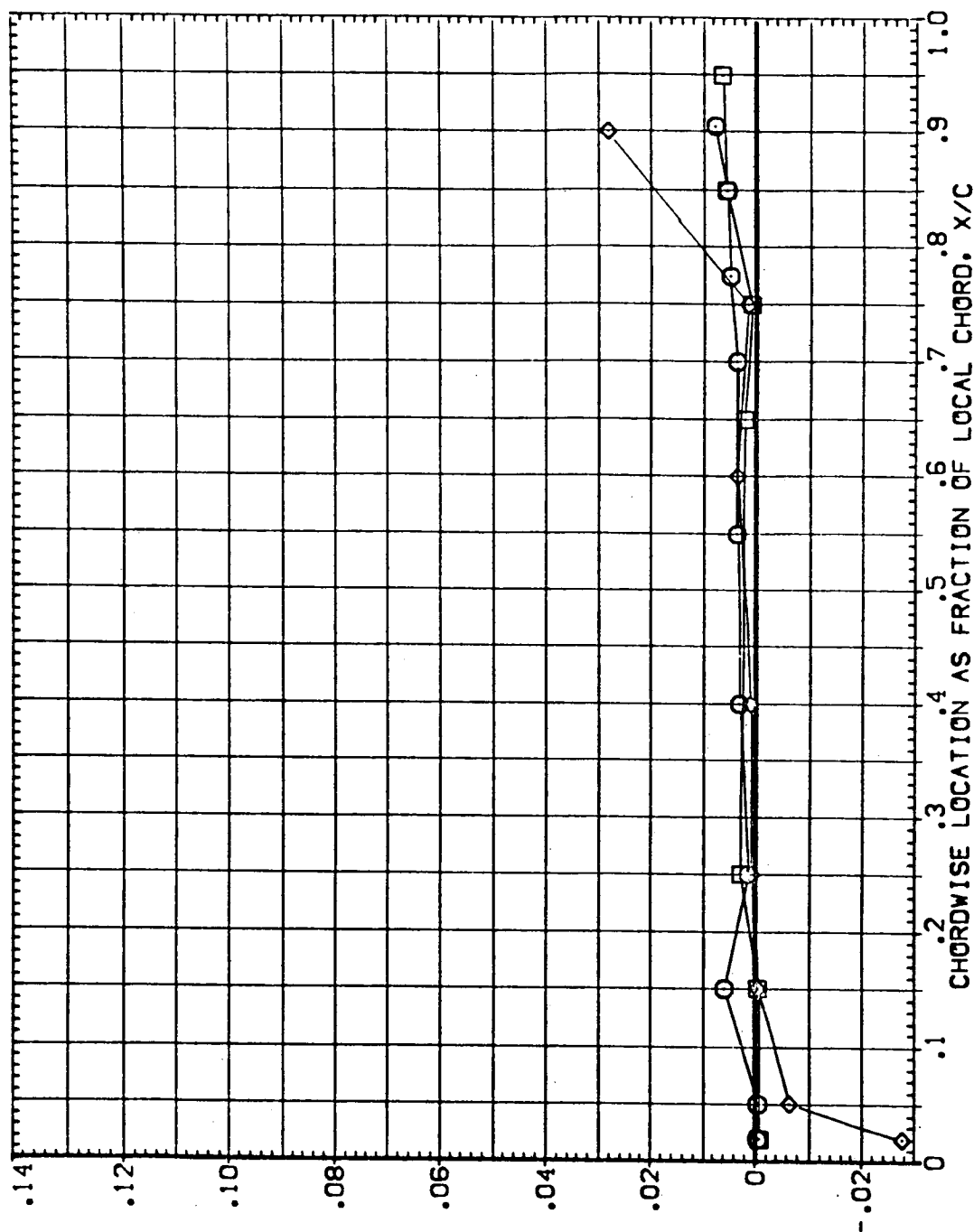


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS





ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW06)

SYMBOL
 ▽
 ○
 □
 ◇

2N/B BETA ALPHA
 .299 1.000 .000
 .364
 .127
 .534

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

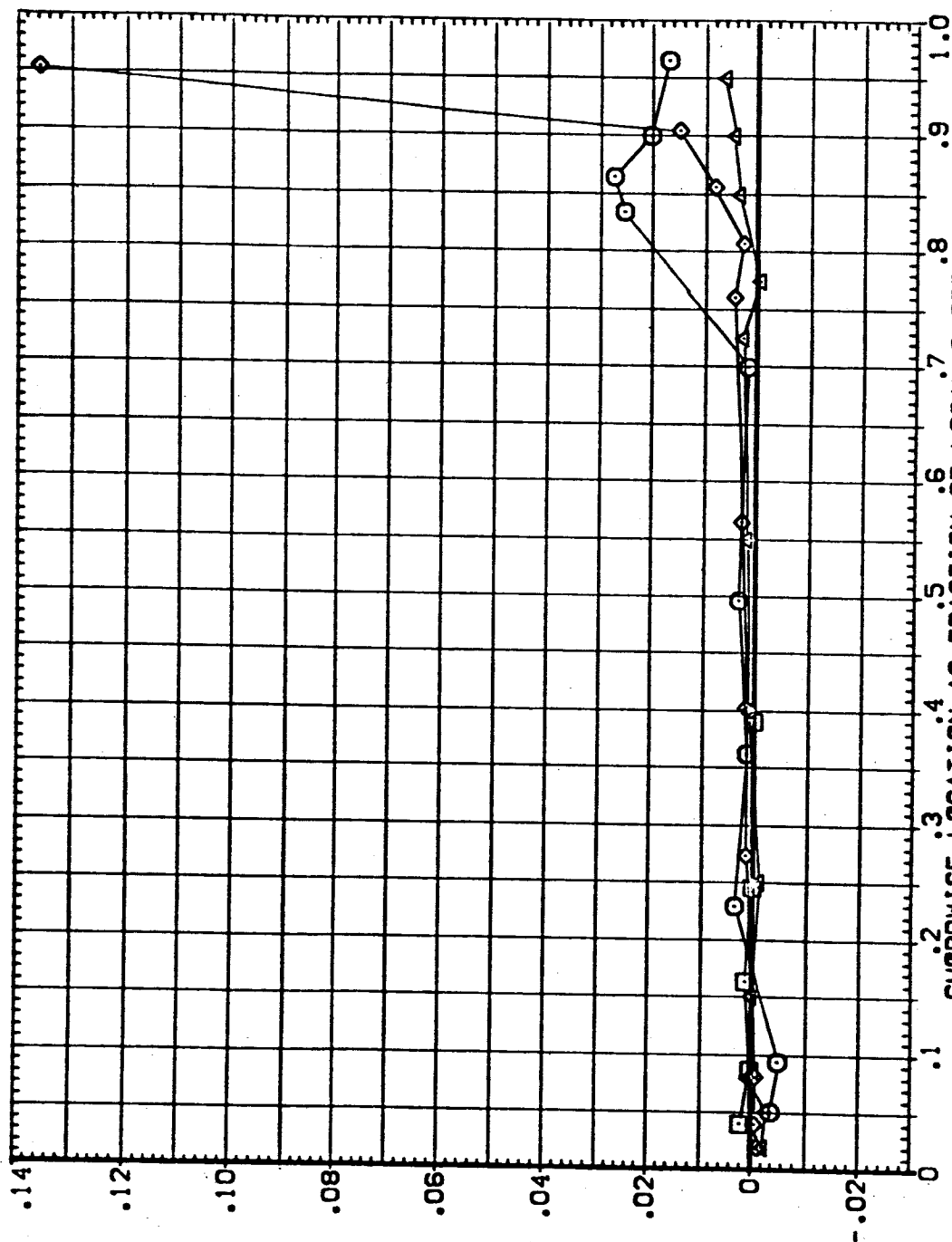


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW06)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-00	ELV-00
□	.641	4.000	.000	RUDER	.000	MACH	1.100
◇	.780			GIMBAL	1.000		
	.887						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

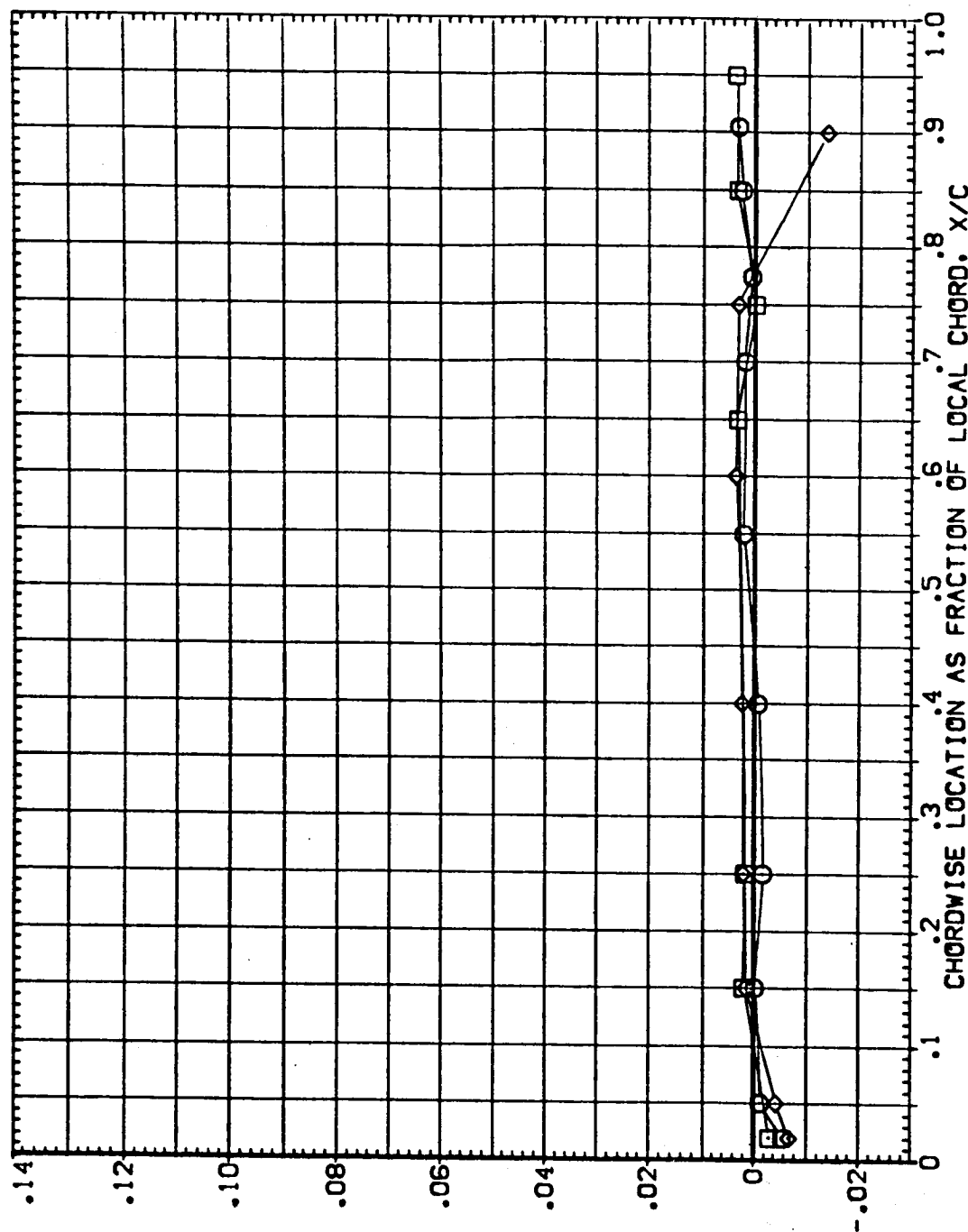


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW07)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.259	.000	-4.000	RUDER	.000	1.000	4.000
◇	.364			GIMBAL	1.000		1.250
△	.427						
▽	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

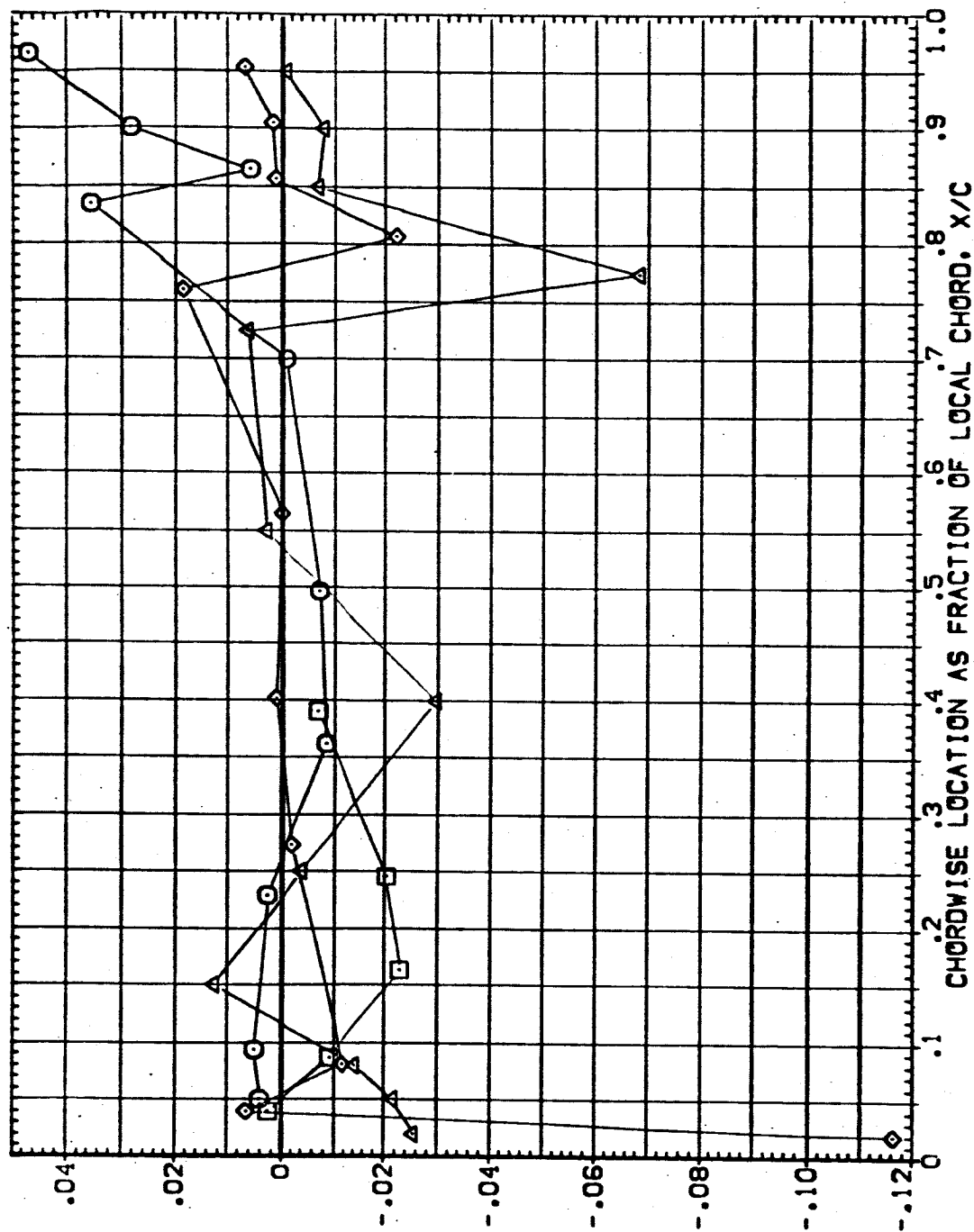


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-UI41A19 UIS+SIRUI SRB-NOM MPS-NOM LWR WING(EEUW07)

PARAMETRIC VALUES
 ELV-IB 8.000 ELV-OB 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL 21/B BETA ALPHA
 .541 .000 -1.000
 .780
 .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

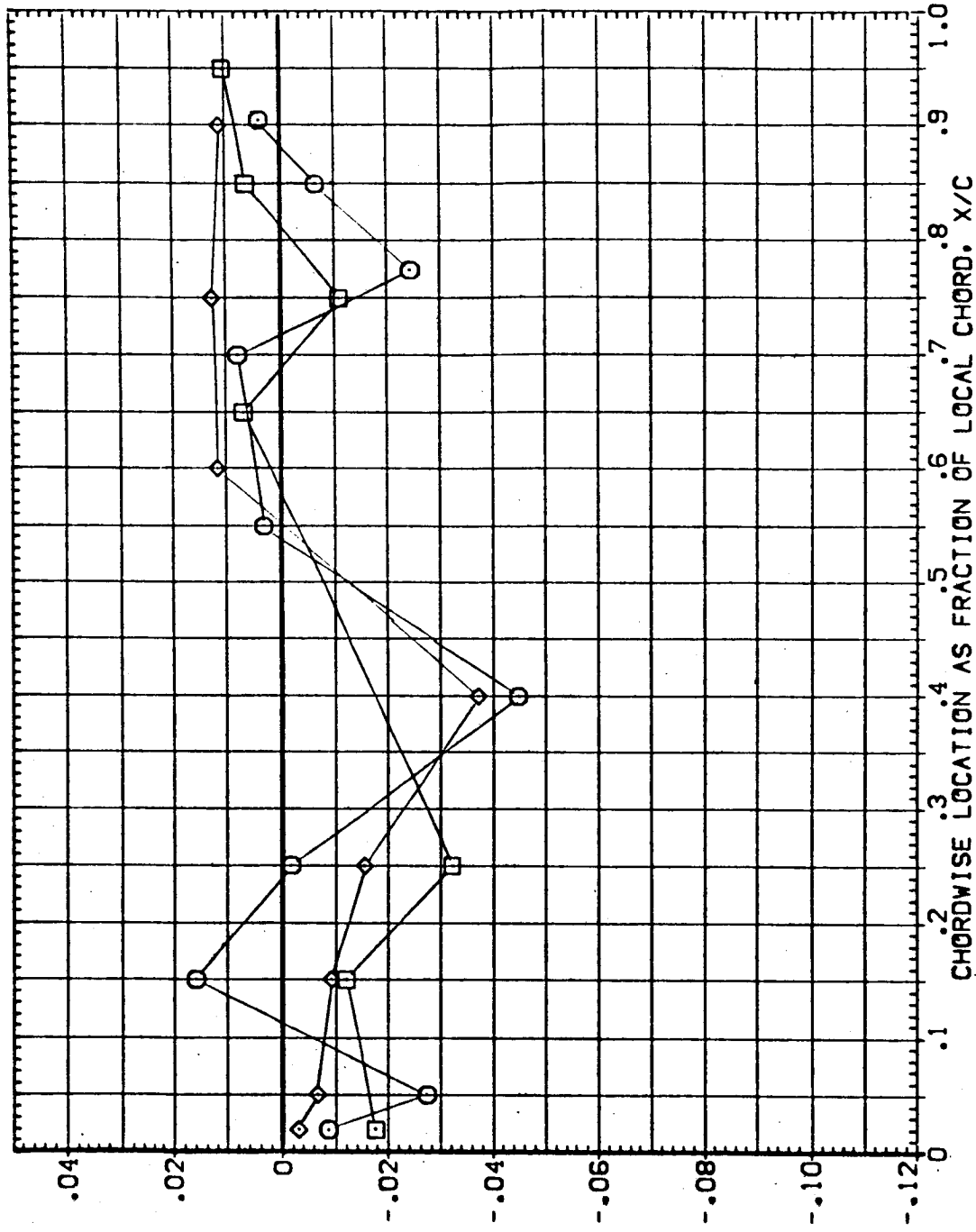


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW07)

SYMBOL	21/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18 RUDDER GIMBAL	6.000 .000 1.000	ELV-08 MACH	4.000 1.250
△	.299	.000	.000				
◇	.361						
□	.427						
○	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

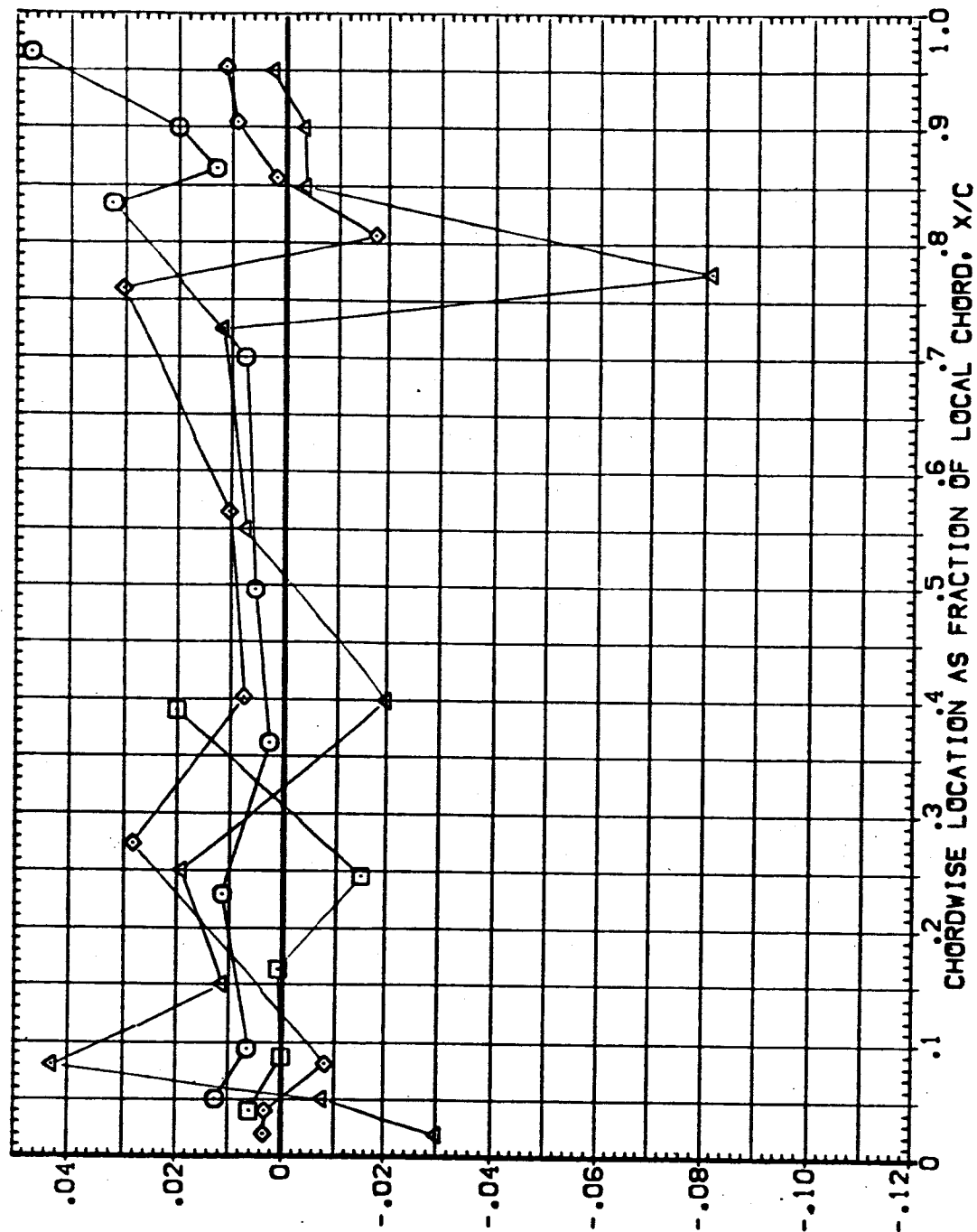


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL	ZU/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-1B	8.000	ELV-08	4.000
	.641	.000	.000	RUDER	.000	MACH	1.250
	.780			GIMBAL	1.000		
	.887						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

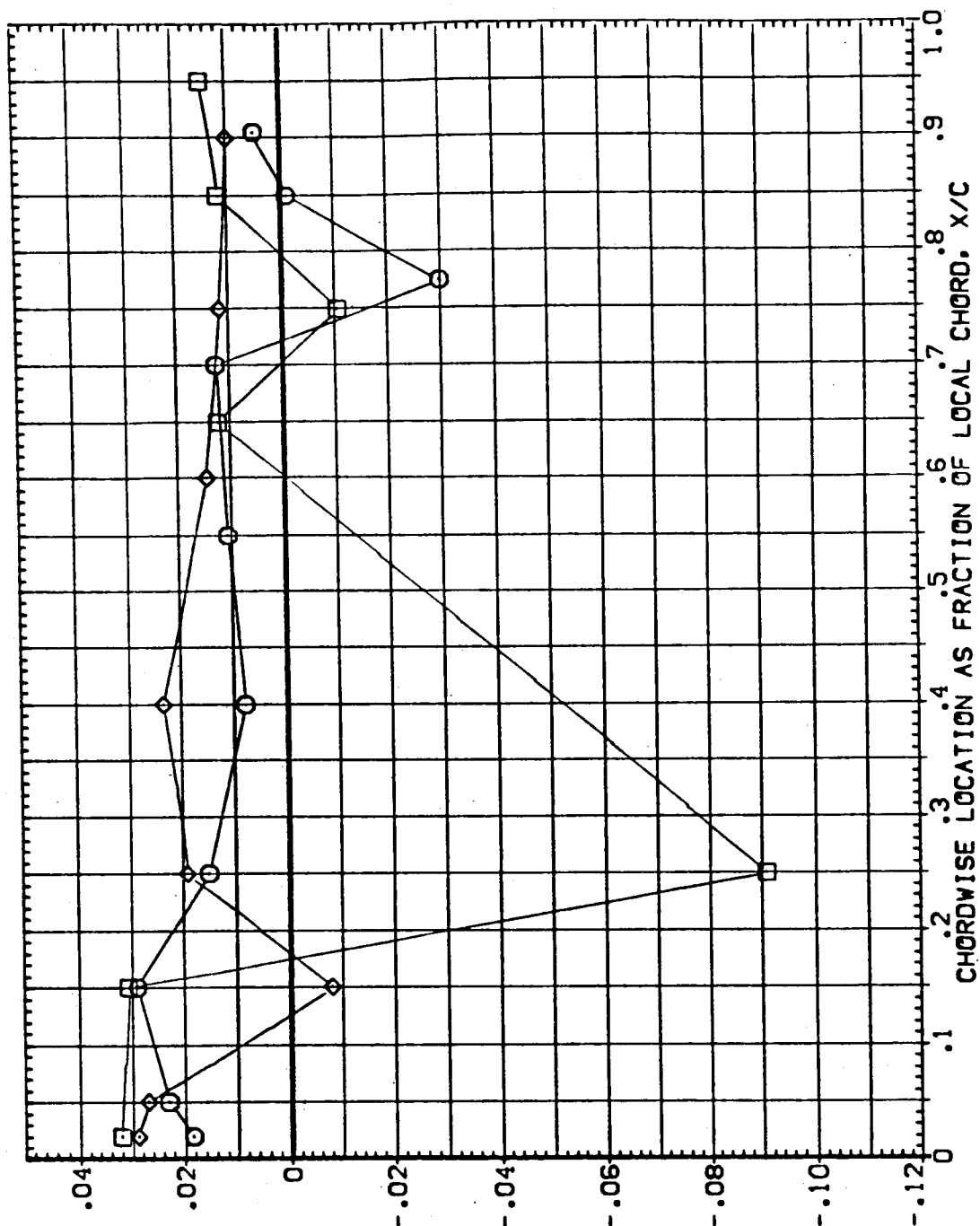


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW07)

SYMBOL	2N/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.299	.000	4.000	RUDER	.000	MACH	1.250
□	.364			GIMBAL	1.000		
◇	.427						
△	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

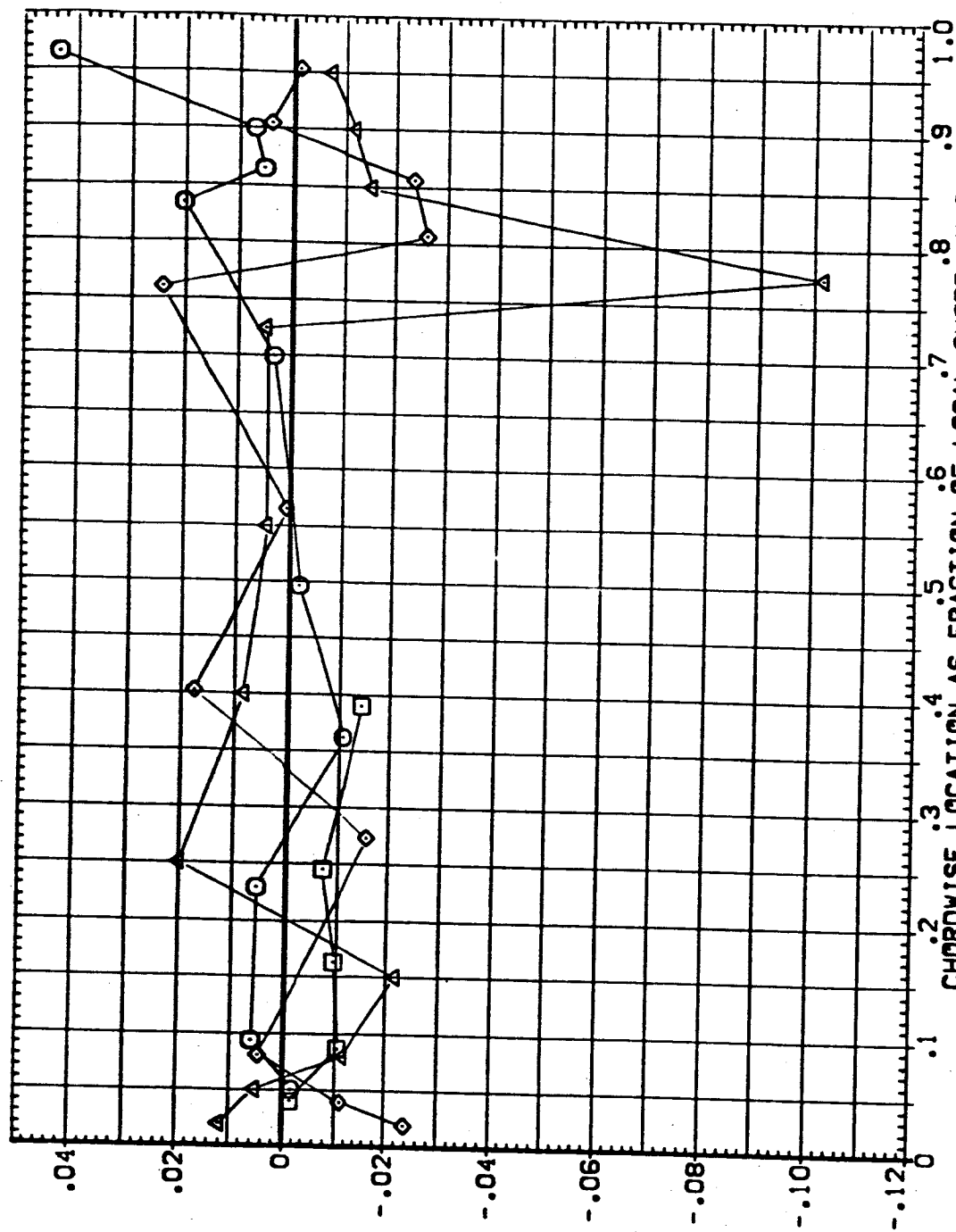


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW07)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ○ .641 .000 4.000
 □ .780 .000 4.000
 ◇ .887 .000 4.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

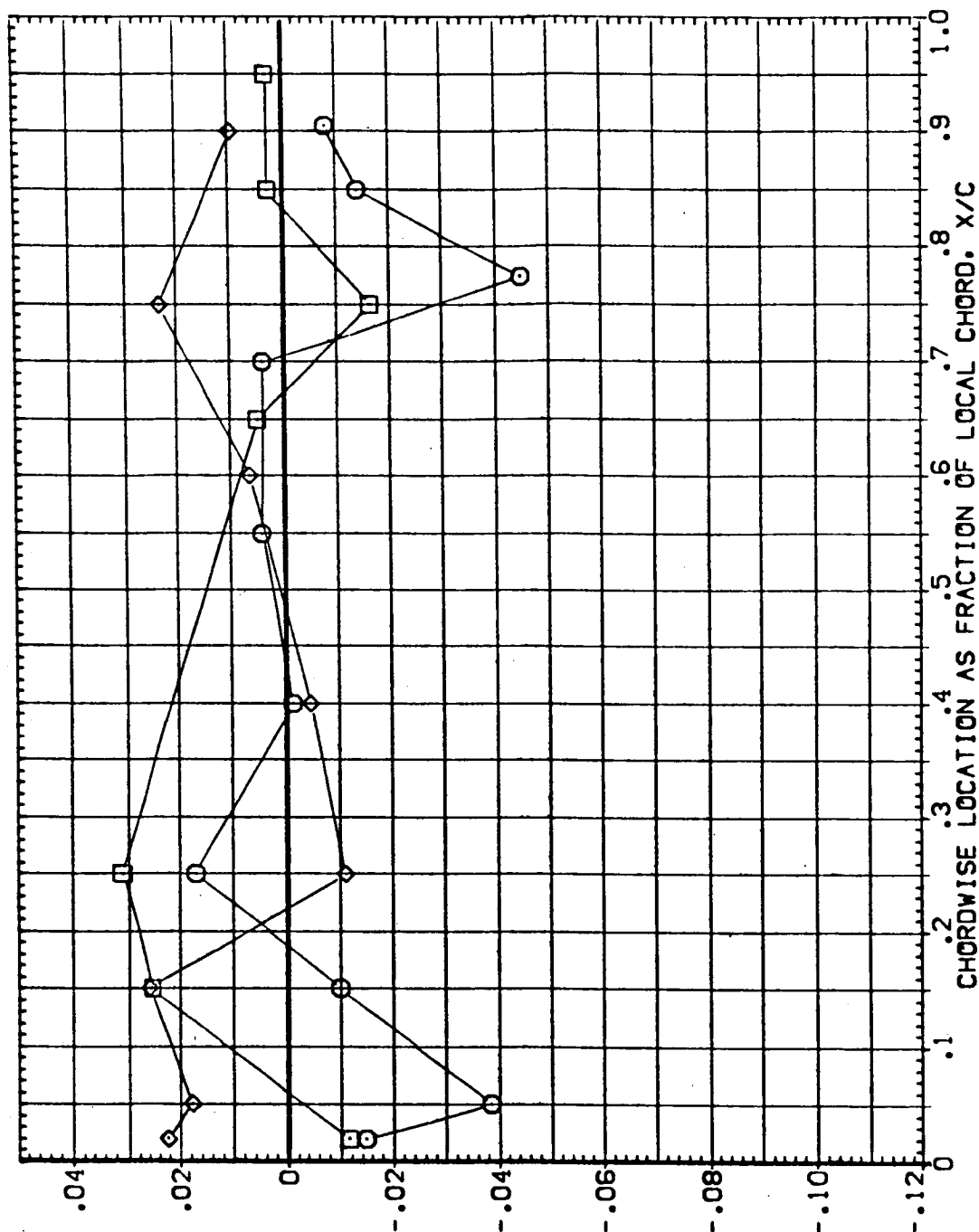


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW07)

SYMBOL	ZV/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
○	.299	-4.000	.000	8.000	.000	1.000	1.250
□	.364			RUDDER			
◇	.427			GIMBAL			
△	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

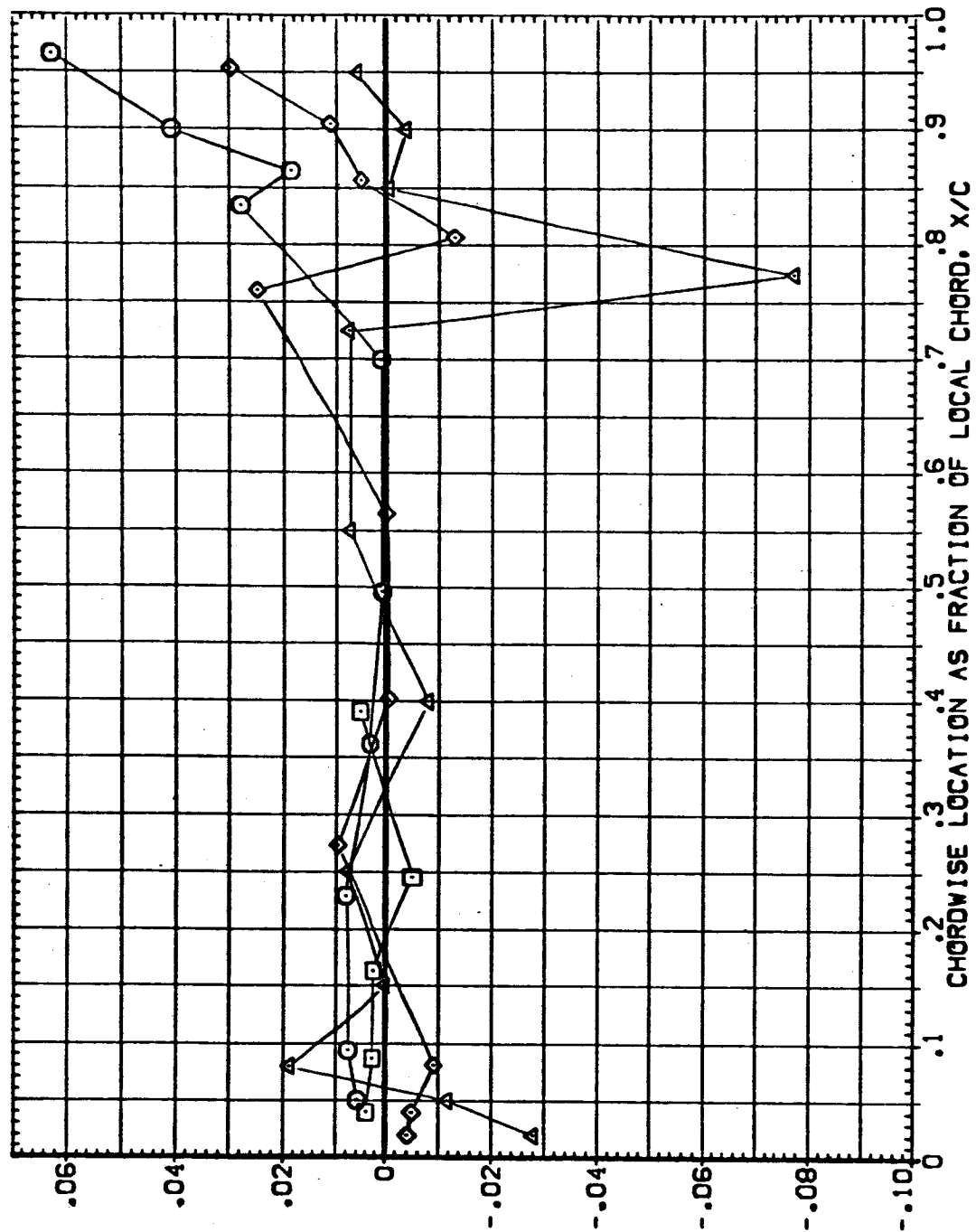


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

AKC11-U141A19 DIS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW07)

SYMBOL	21/B	BETA	ALPHA	PARAMETRIC VALUES
○	.641	-1.000	.000	ELV-08 8.000
□	.780			RUDER .000
◇	.887			GIMBAL 1.000
				MACH 1.250
				4.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

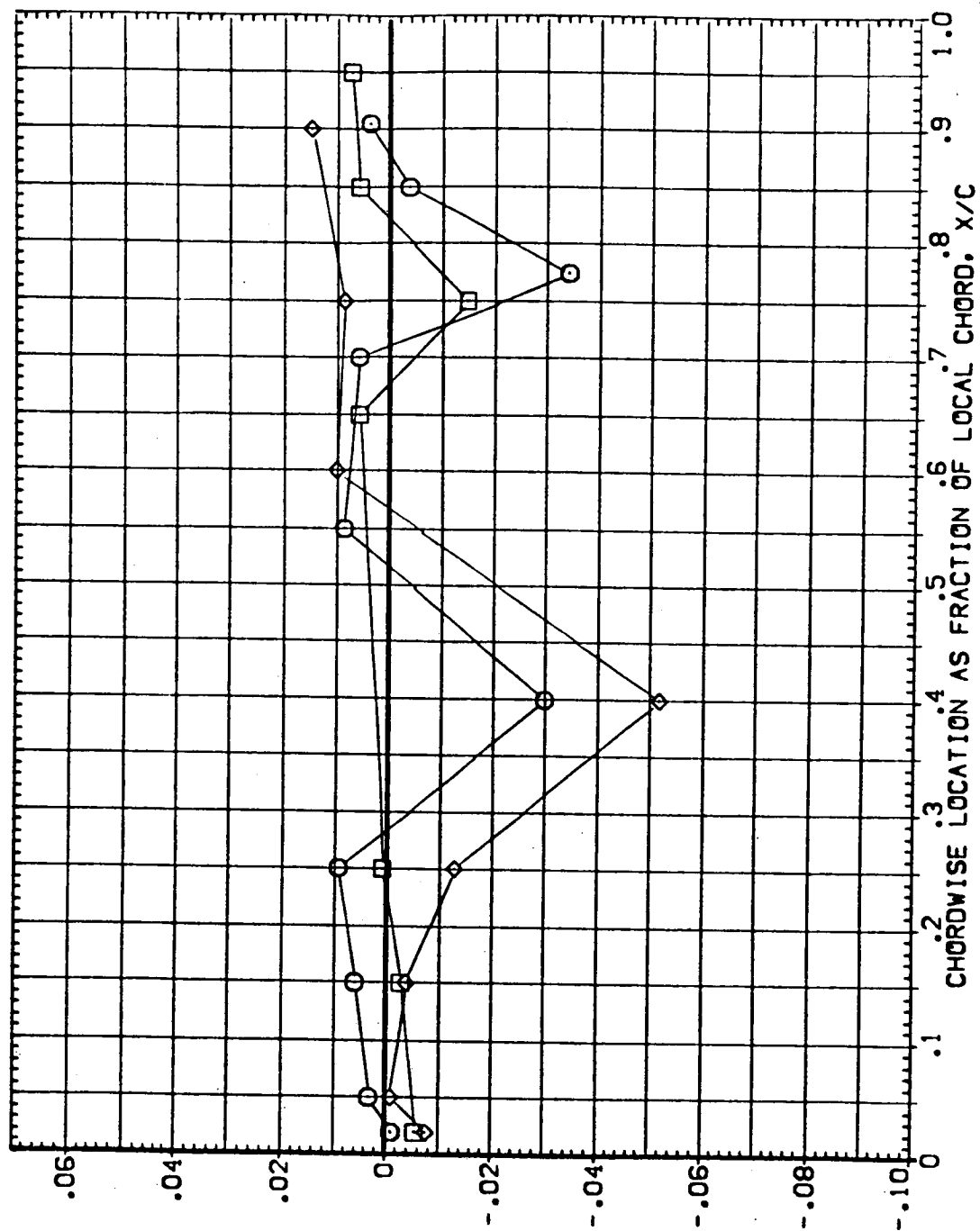


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW07)

SYMBOL Δ \square \diamond \circ

2Y/B BETA ALPHA

.299 1.000 .000

.364

.427

.534

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDDER .000 MACH 1.250

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

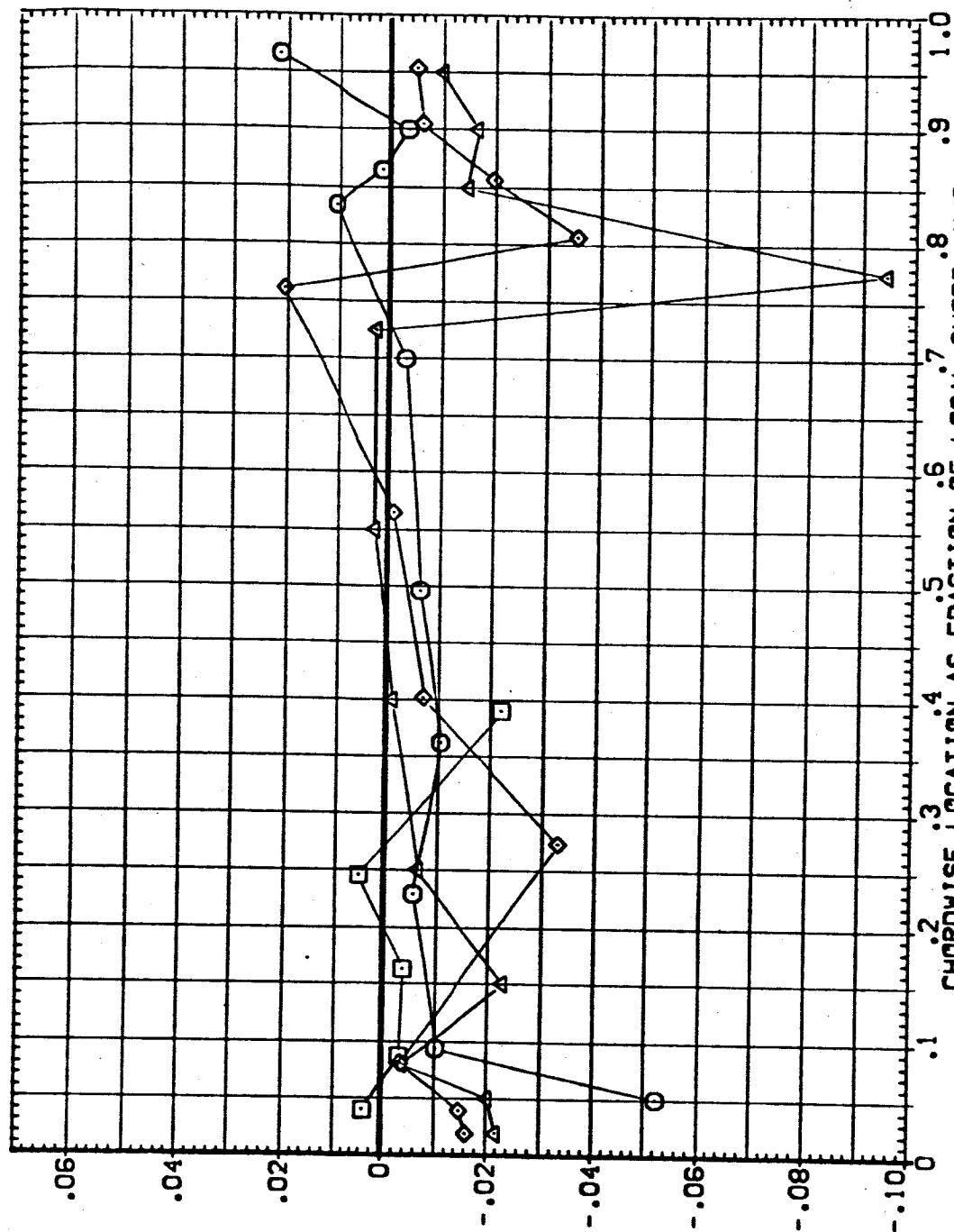


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW07)

SYMBOL	2Y/B	BETA	ALPHA	ELV-IB	ELV-OB	PARAMETRIC VALUES
◇	.641	4.000	.000	RUDDER	.000	MACH
□	.780			GIMBAL	1.000	
◇	.887					4.000
						1.250

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

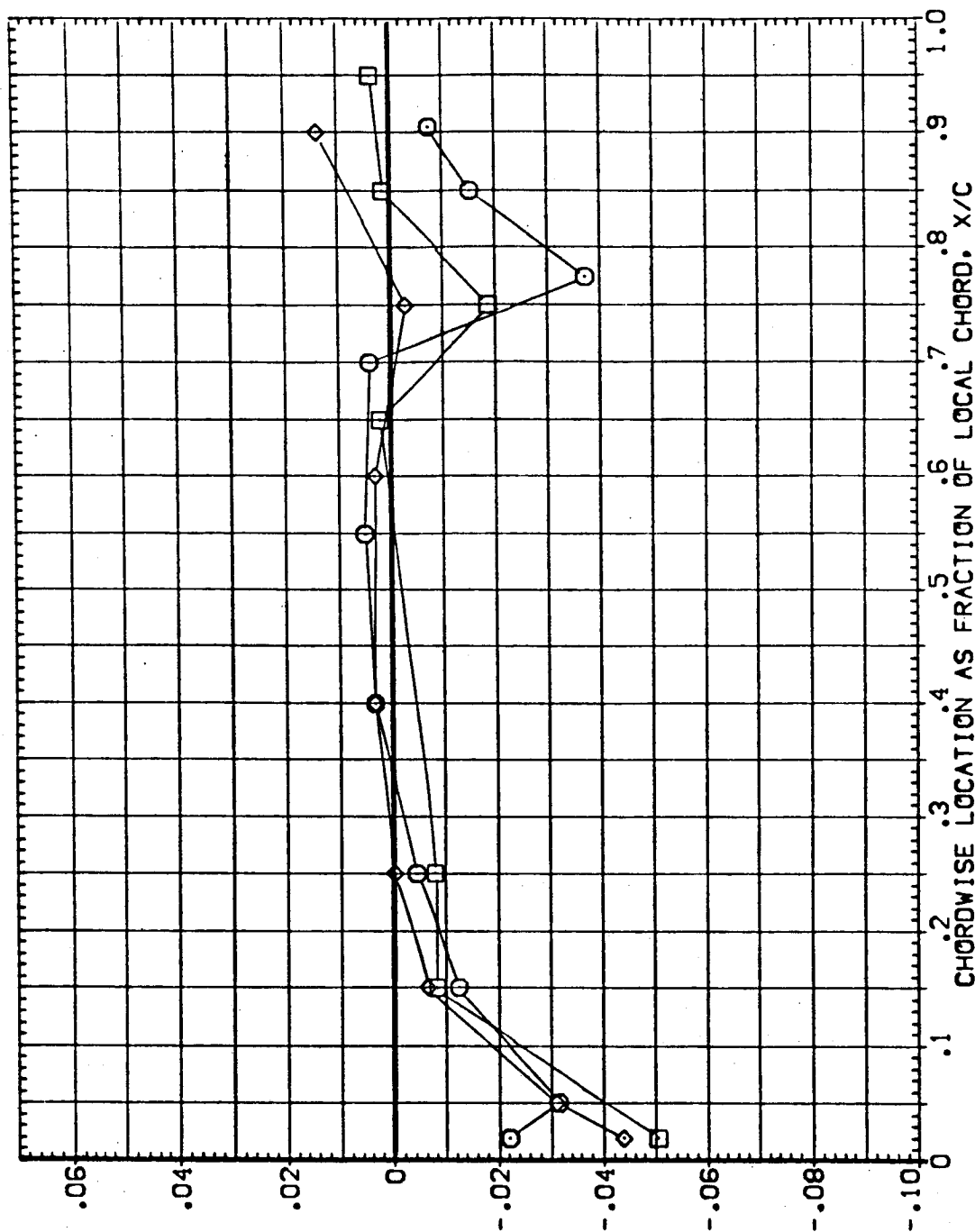


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW08)

SYMBOL	Z/Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-1B	ELV-0B	ELV-0B	MACH
○	.299	.000	-4.000	8.000	.000	1.000	1.000
□	.364			RUDER			
◇	.427			GIMBAL			
△	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

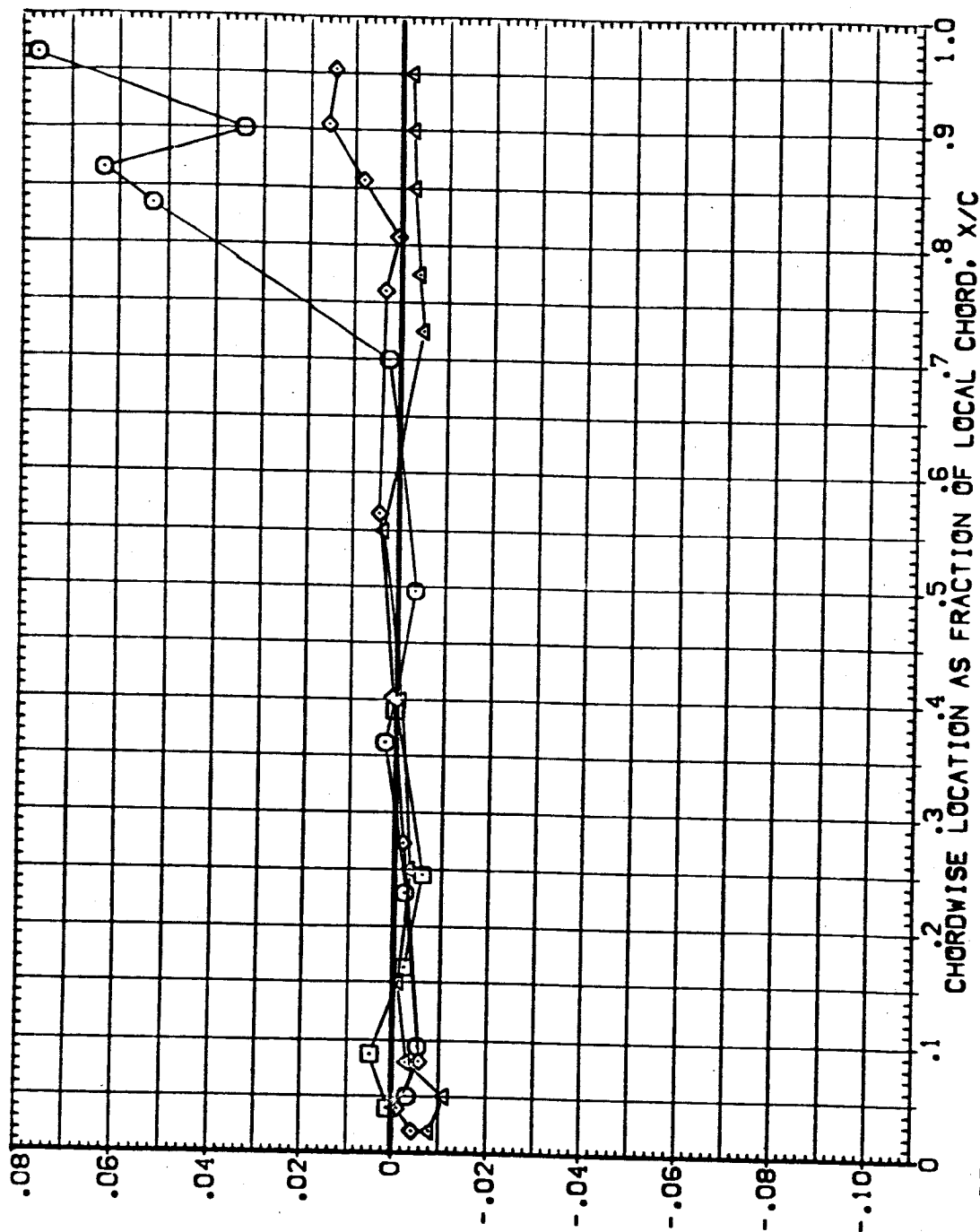


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL 2Y/B BETA ALPHA

◇ .641 .000 -4.000

□ .780 .000 .000

○ .887 .000 .000

PARAMETRIC VALUES

ELV-18 ELV-08 4.000

RUDER MACH 1.400

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

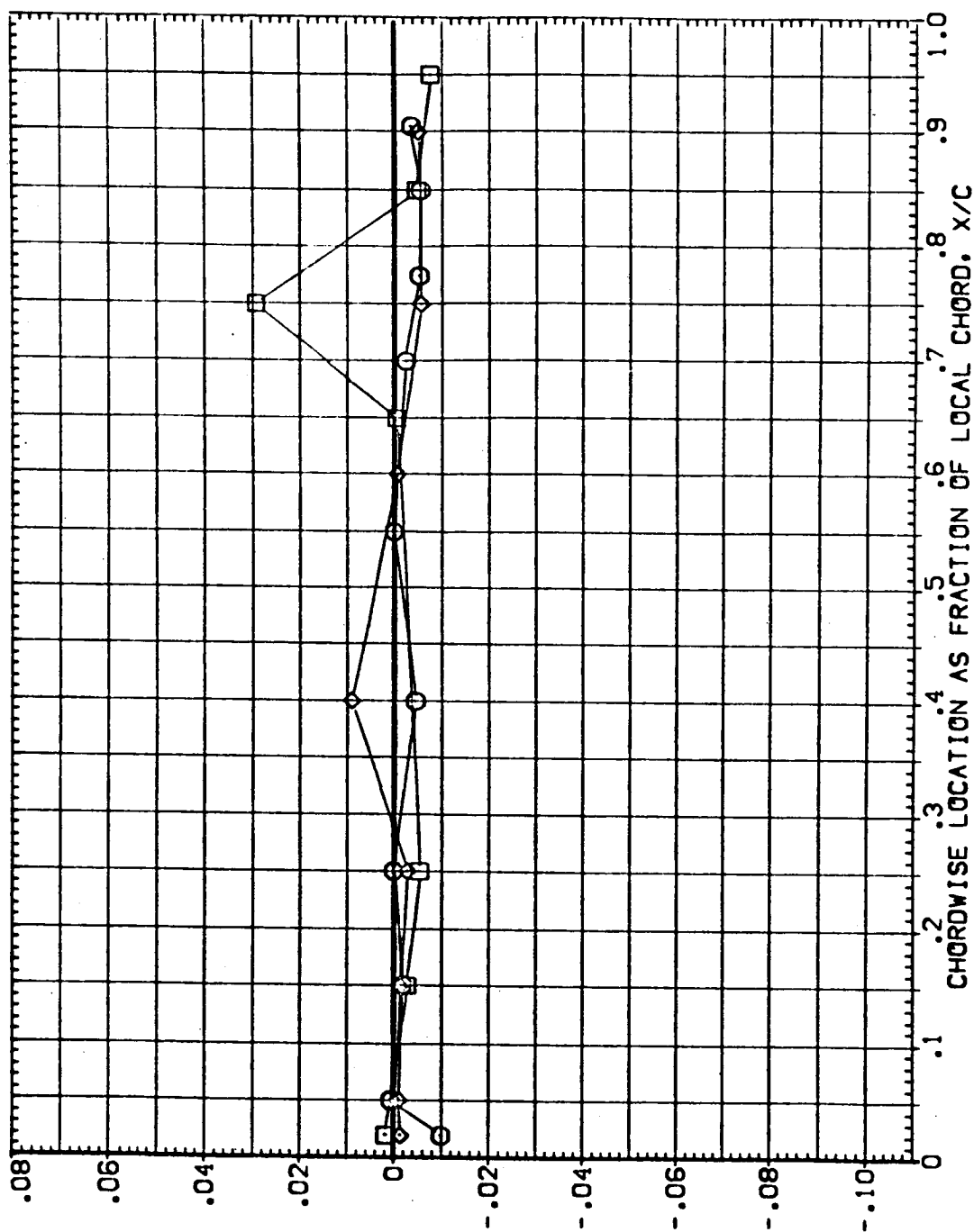


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW08)

SYMBOL	Z/Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.299	.000	.000	RUDER	.000	1.000	4.000
◇	.364	.000	.000	GIMBAL	.000	1.000	1.400
△	.427	.000	.000				
□	.534	.000	.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

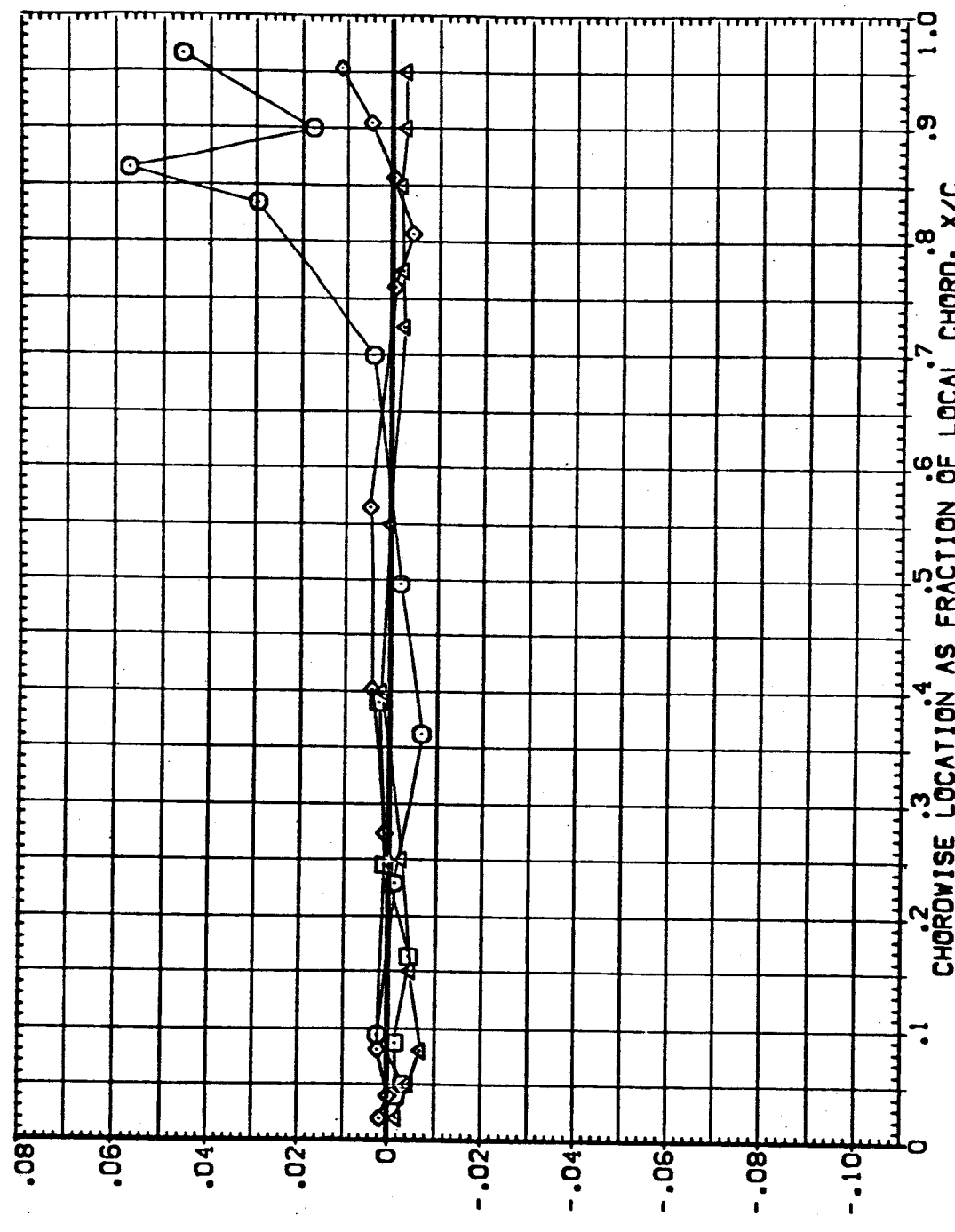


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW08)

SYMBOL	21/8	BETA	ALPHA	PARAMETRIC VALUES
○	.641	.000	.000	ELV-18 8.000 ELV-08 1.000
□	.780	.000	.000	RUDER .000 MACH 1.400
◇	.887	.000	.000	GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

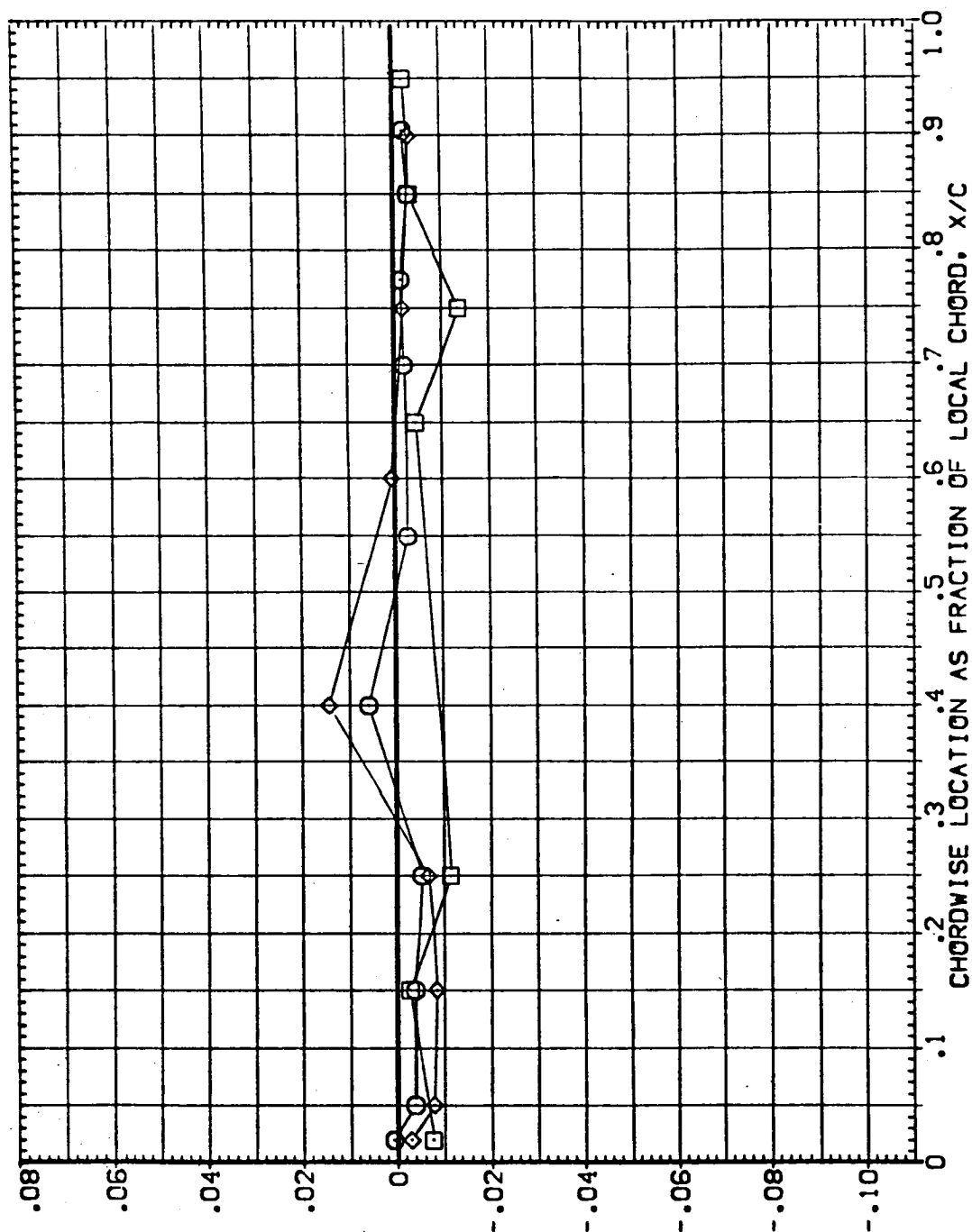


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW08)

SYMBOL	Z1/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.259	.000	4.000	RUDER	.000	1.000	4.000
◇	.364			GINBAL	1.000		1.400
△	.427						
▽	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

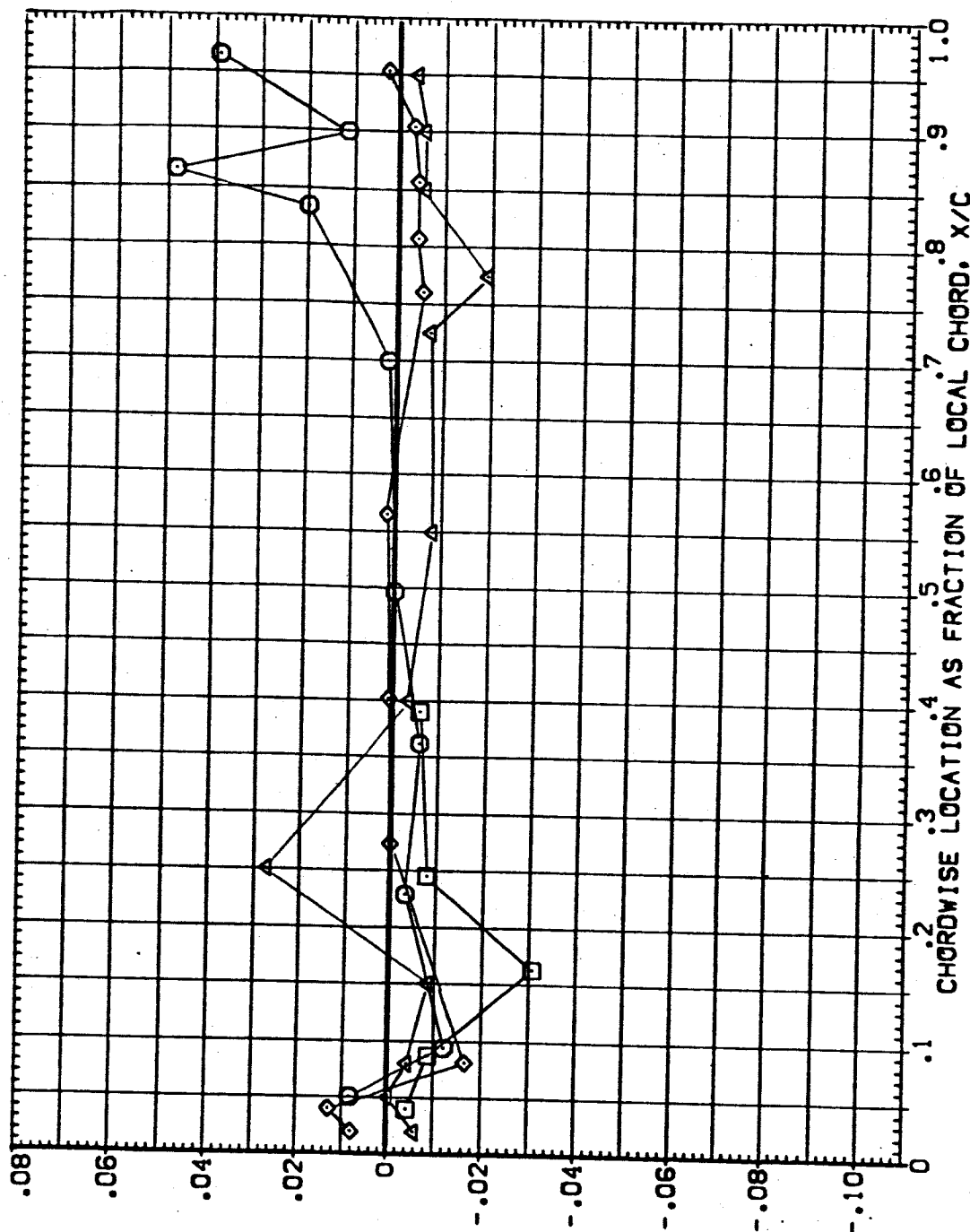


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(EEUW08)

SYMBOL	Z1/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	4.000
○	.641	.000	1.000	RUDER	.000	MACH	1.400
□	.780			GIMBAL	1.000		
◇	.887						

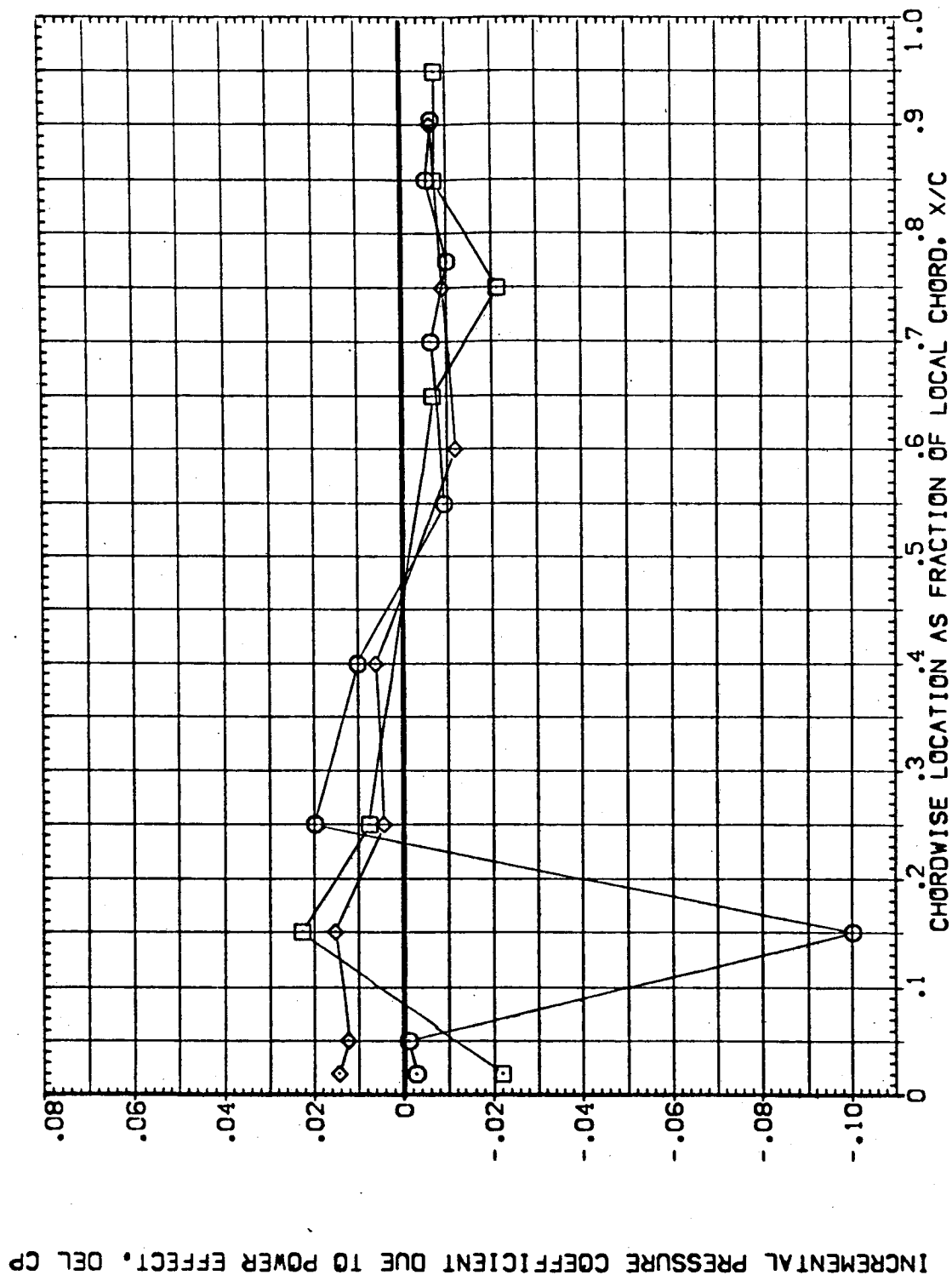


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW08)

SYMBOL	2N/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-19	ELV-08	ELV-08	MACH
○	.259	-1.000	.000	ELV-19	ELV-08	ELV-08	MACH
□	.361			RUDER			
◇	.427			GIMBAL			
▽	.531						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

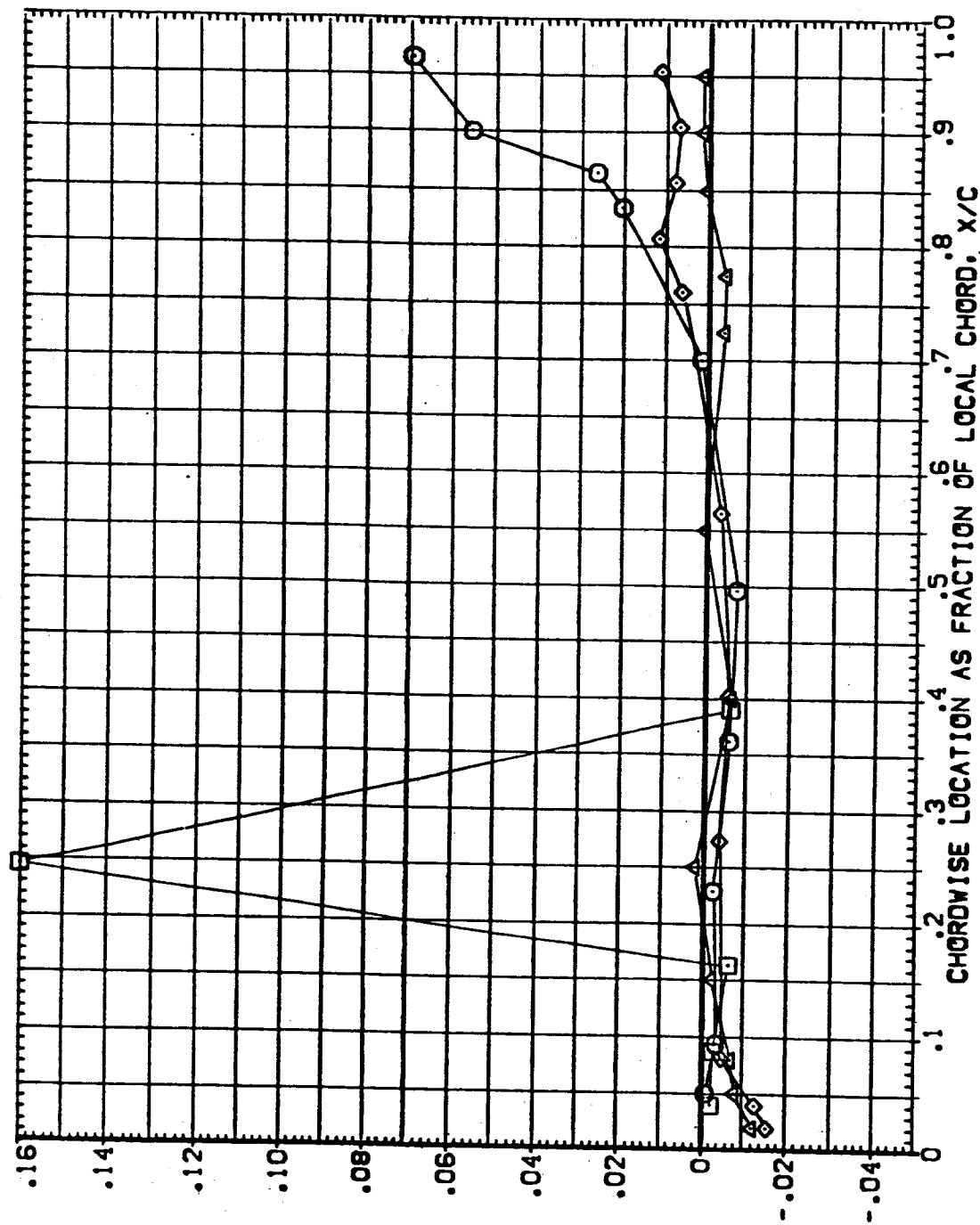


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW08)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ○ .641 -4.000 .000
 □ .780
 ◇ .687

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

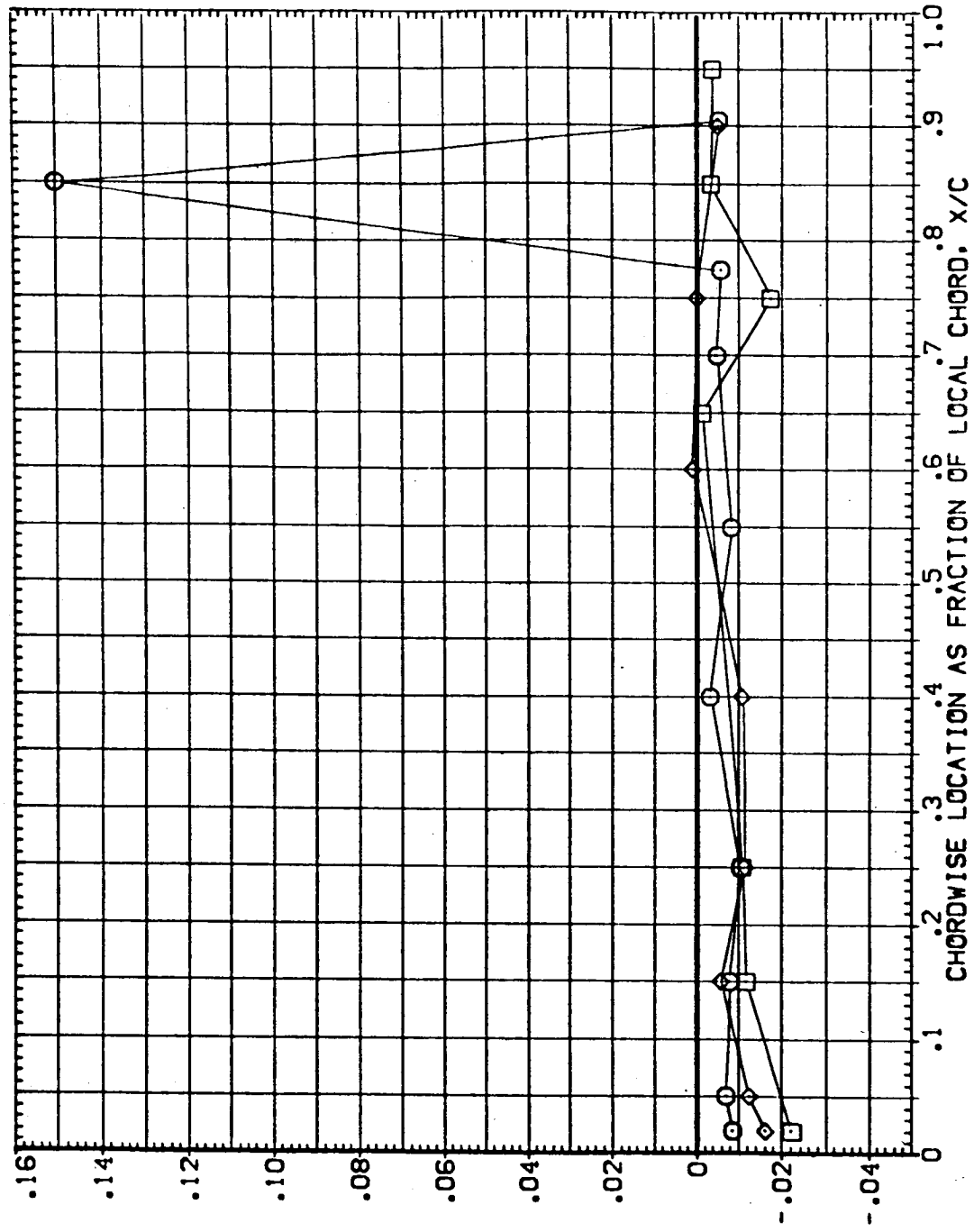


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW08)

SYMBOL	Z1/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
◇	.299	4.000	.000	RUDER	.000	1.000	4.000
□	.364			GIMBAL	1.000		1.400
△	.427						
▽	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

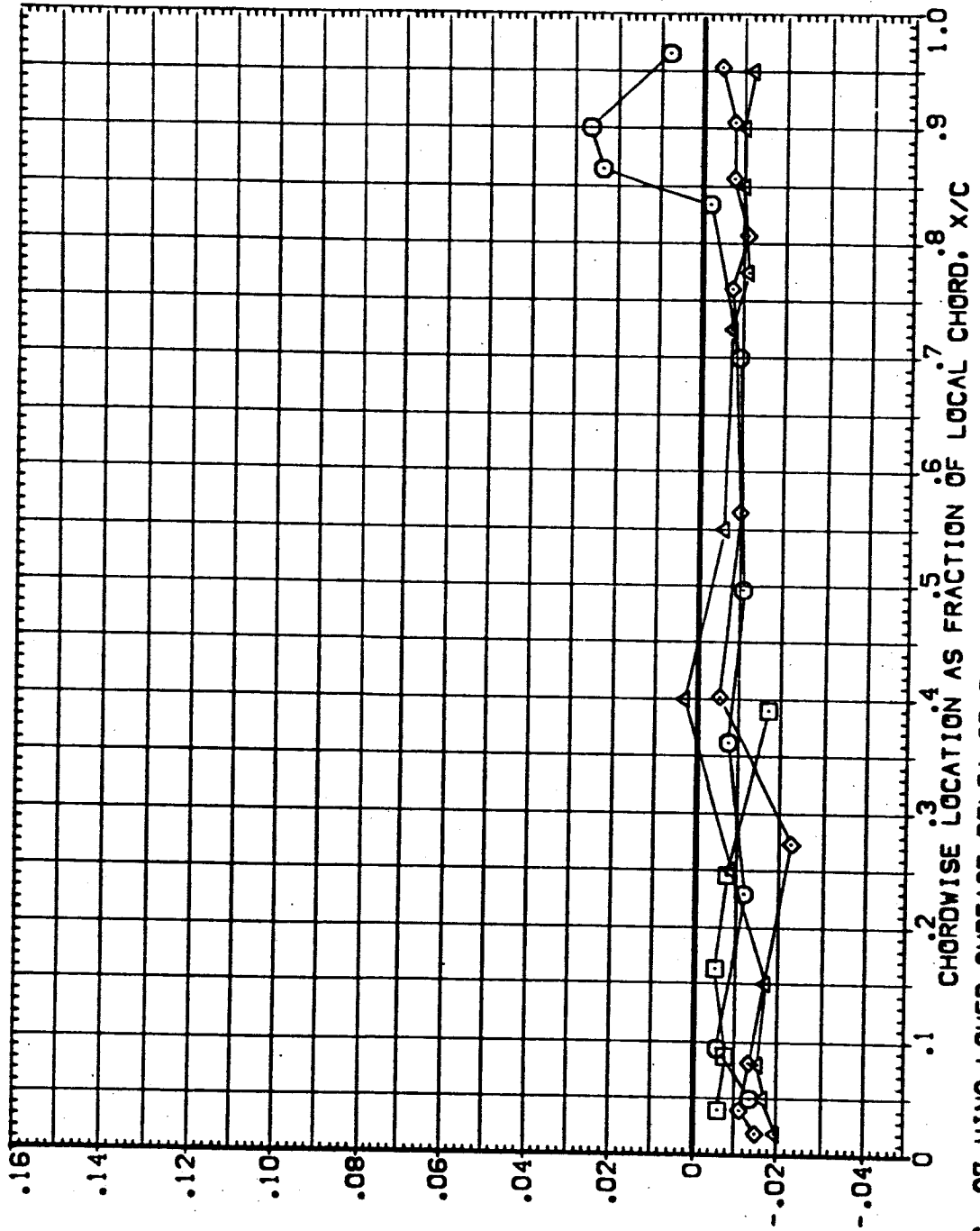


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 DIS+STRUT SRB-NOM MPS-NOM LWR WING(FEUW08)

SYMBOL	2V/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	4.000
○	.641	4.000	.000	RUDER	.000	MACH	1.400
□	.780			GIMBAL	1.000		
◇	.887						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

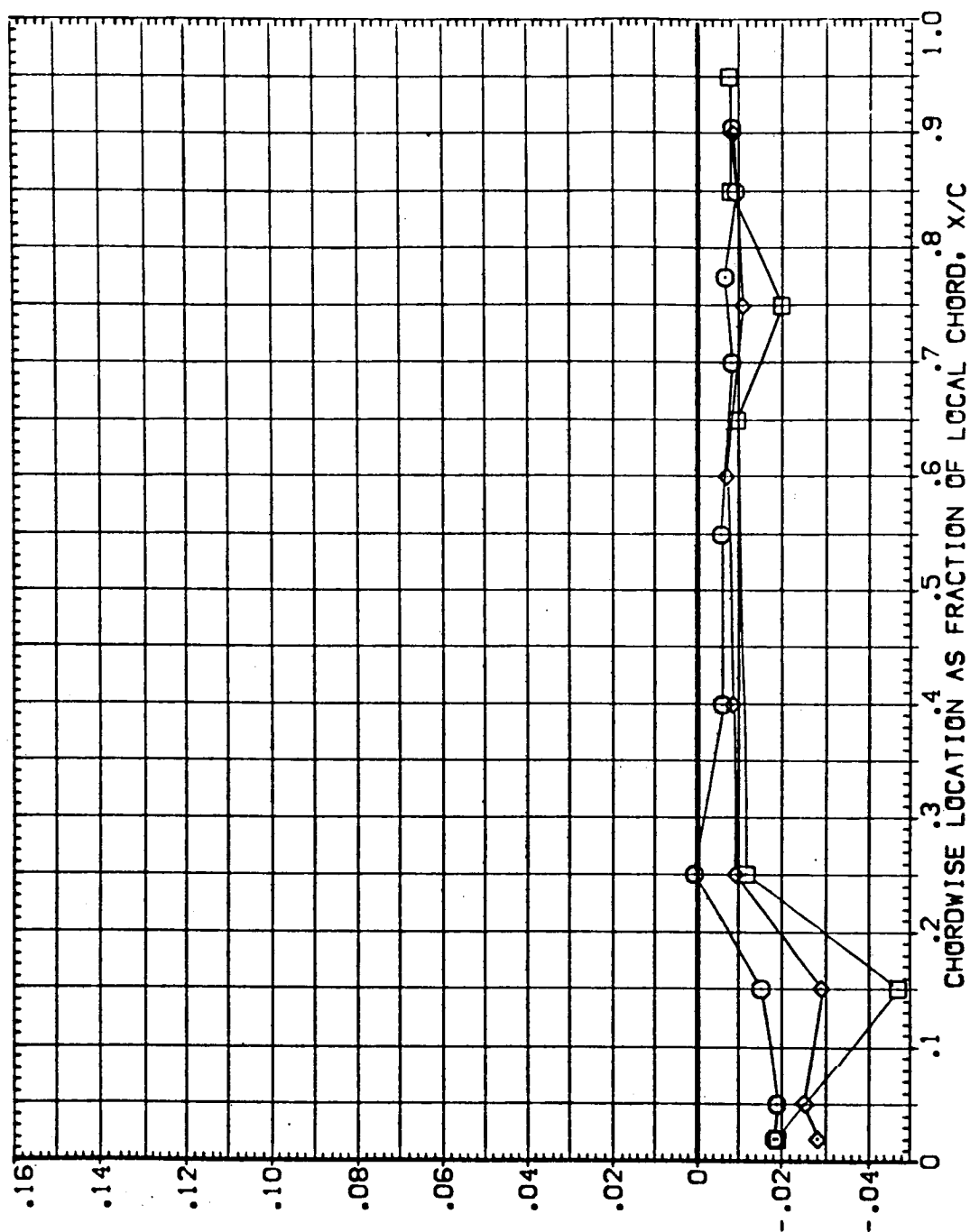


FIG. 97 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 0TS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW13)

SYMBOL	2V/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.259	.000	-4.000	RUDER	.000	MACH	.900
□	.364			GIMBAL	1.000		
◇	.427						
△	.534						

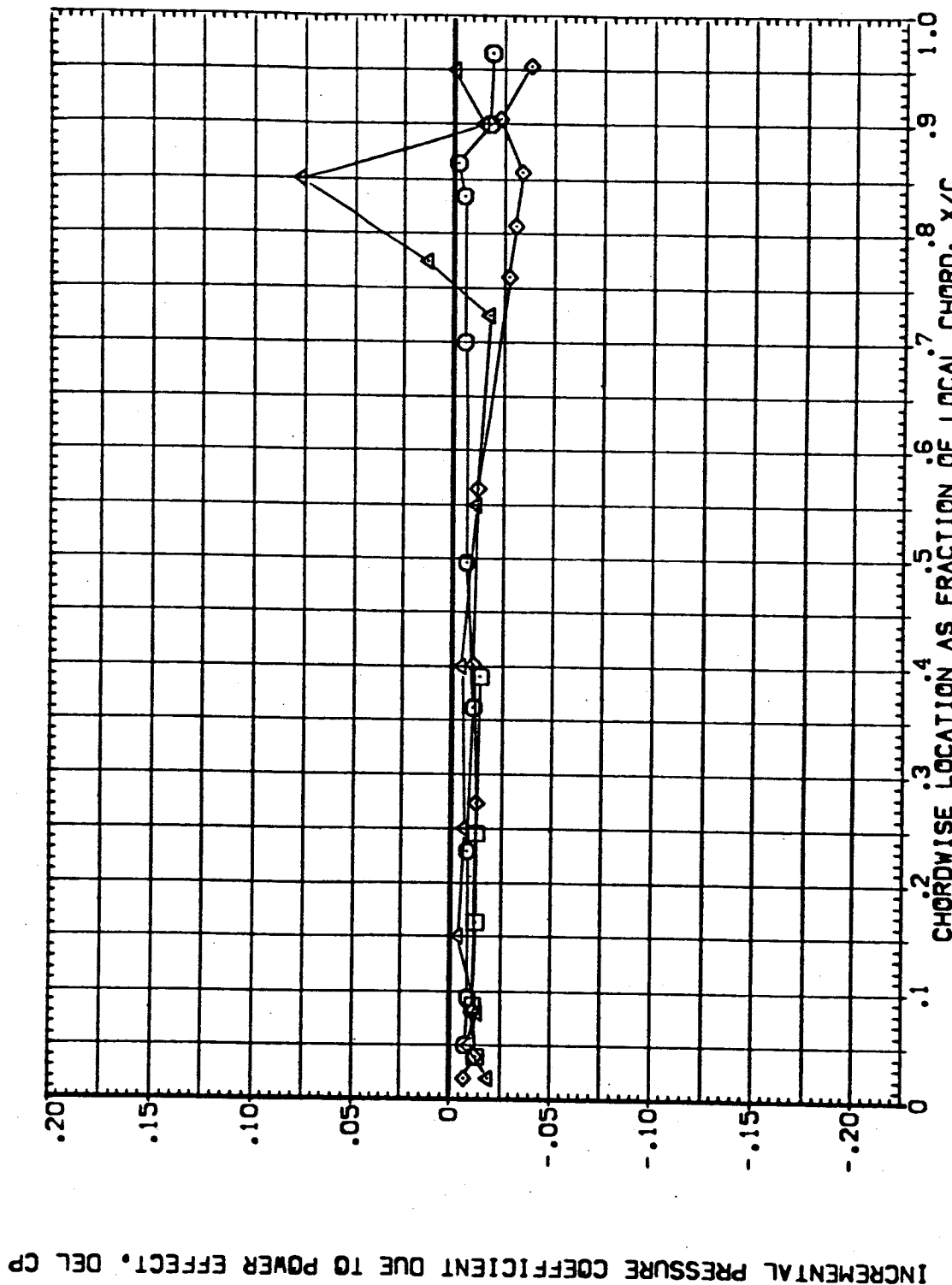


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM. MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW13)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES
○	.641	.000	-4.000	ELV-18
□	.780	.000	.000	ELV-08
◇	.887	1.000	.000	MACH
				GIMBAL

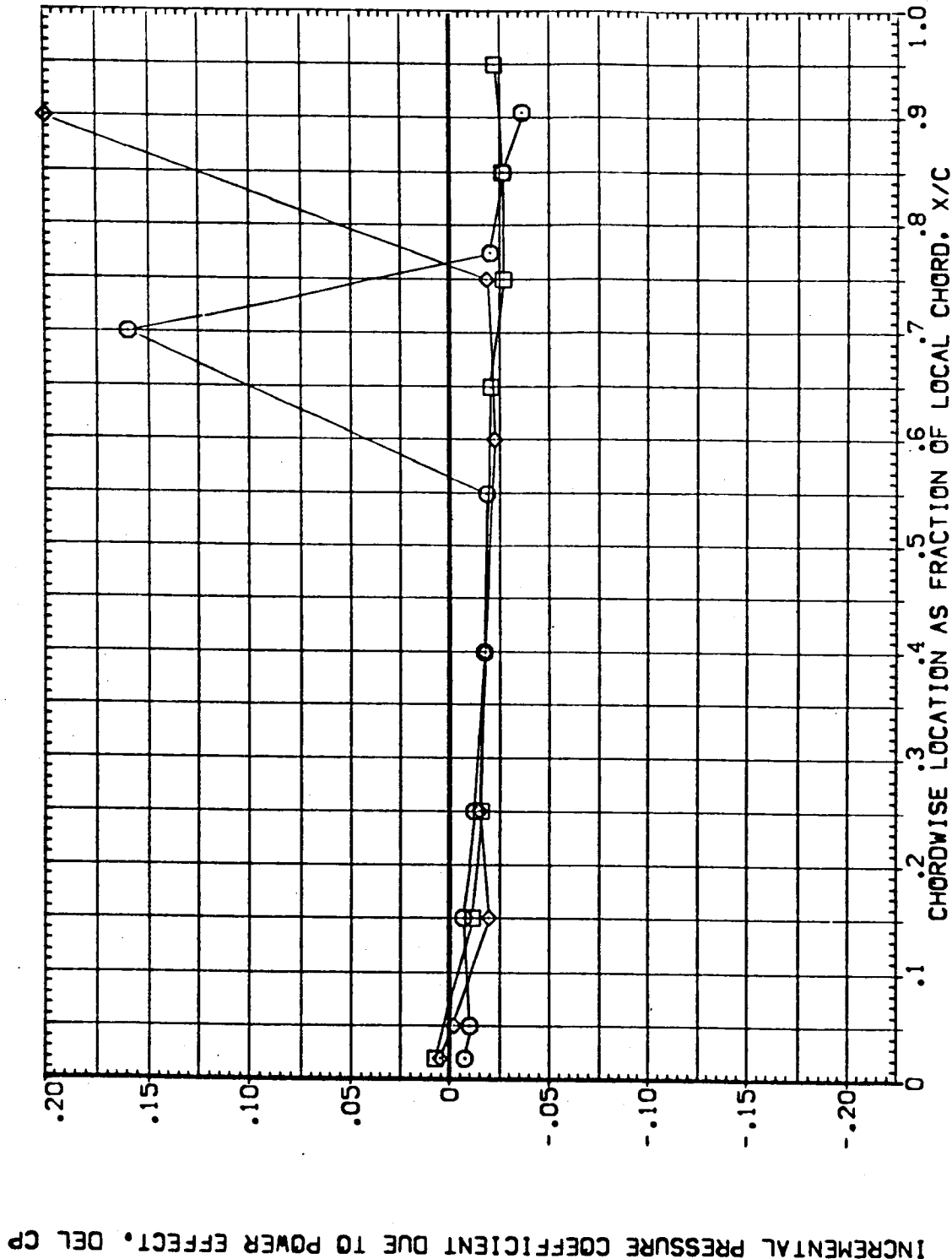


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 QTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW13)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	ELV-08
○	.299	.000	.000	RUDER	.000	MACH	1.000
◇	.364			GIMBAL	1.000		.900
△	.427						
▽	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

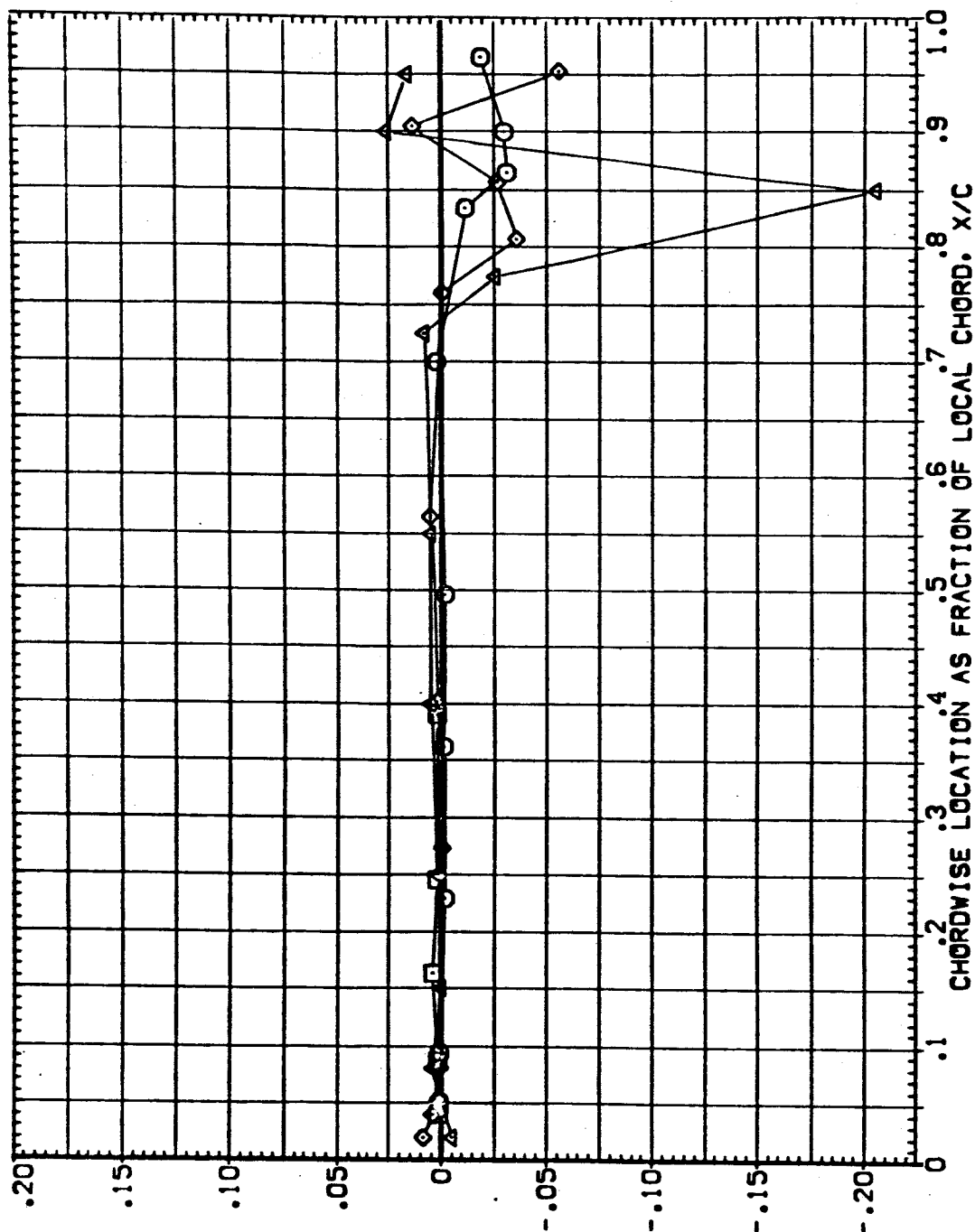


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW13)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-1B	ELV-08	MACH	
○	.641	.000	.000	8.000	8.000	1.000	4.000
□	.780	.000	.000	RUDDER			.900
◇	.687	.000	.000	GIMBAL			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

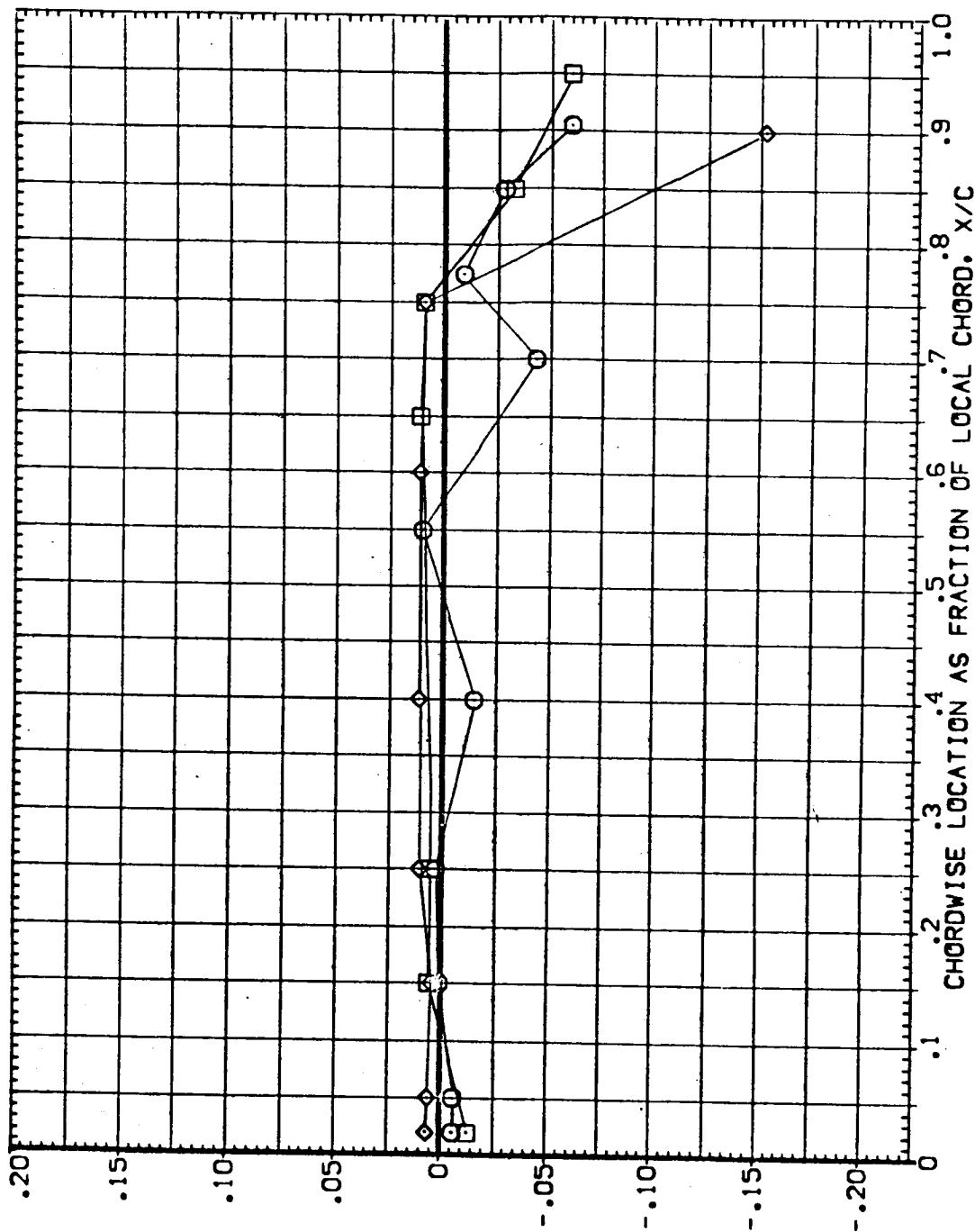


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW13)

SYMBOL	Z/Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
◇	.299	.000	1.000	RUDDER	.000	1.000	4.000
◇	.364			GIMBAL			.900
◇	.427						
◇	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

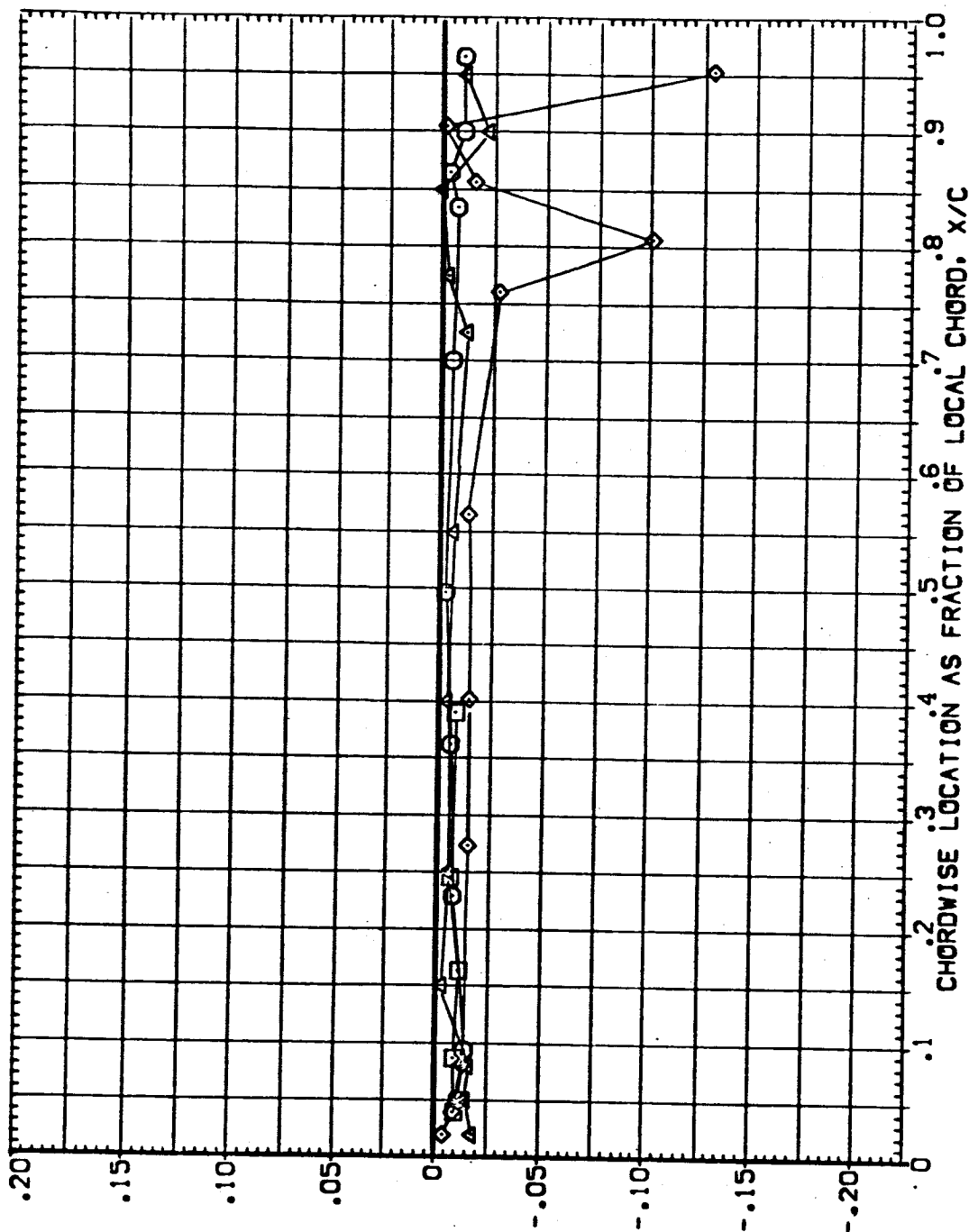


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EUW13)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.641	.000	4.000	RUDDER	.000	1.000	4.000
□	.780			GIMBAL			.900
◇	.887						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

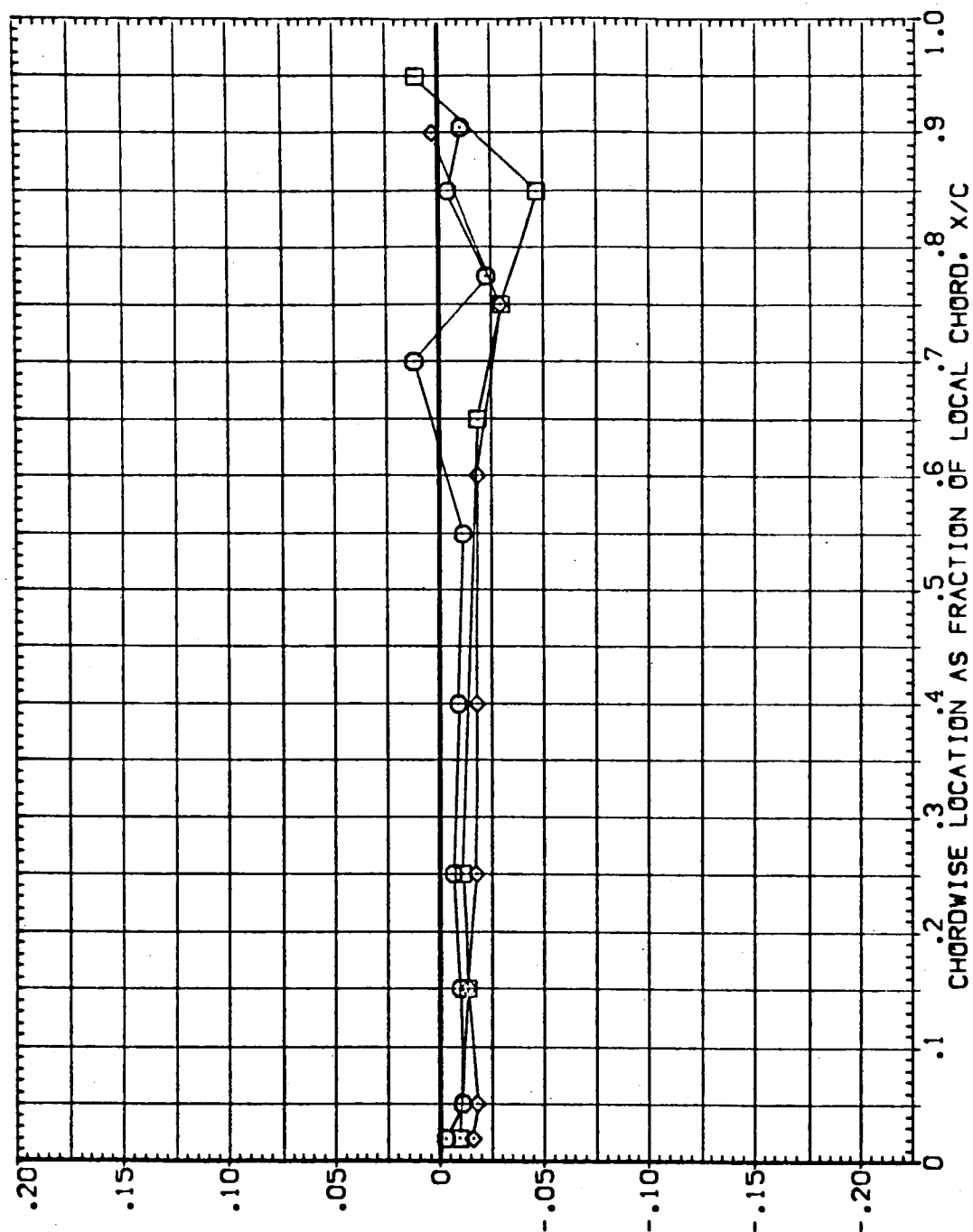


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW13)

SYMBOL	2V/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.299	-1.000	.000	RUDER	.000	MACH	.900
◇	.364			GIMBAL	1.000		
△	.427						
▽	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

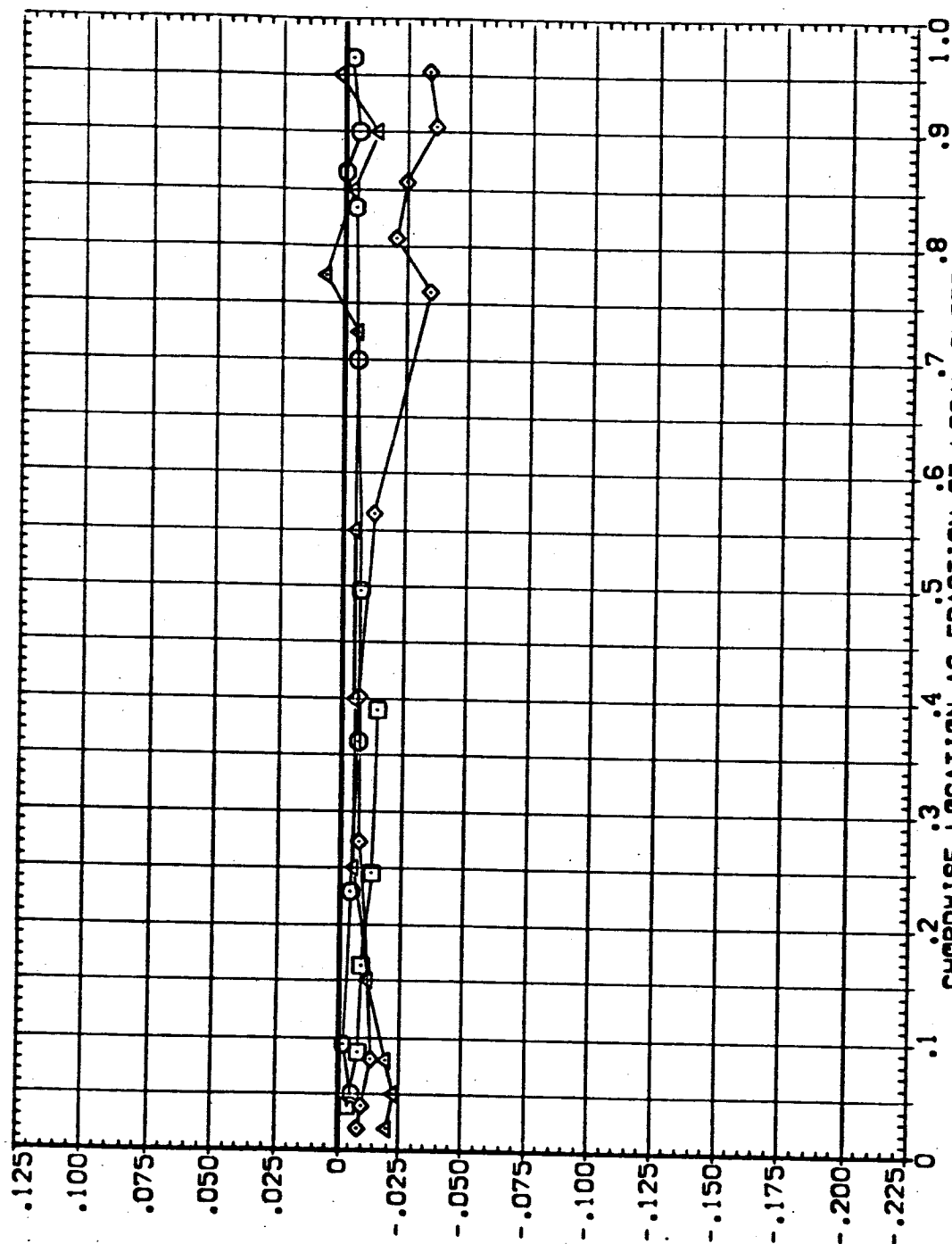


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

SYMBOL	2V/8	BETA	ALPHA	PARAMETRIC VALUES			
	.641	-4.000	.000	ELV-18	8.000	ELV-08	4.000
	.780			RUDER	.000	MACH	.900
	.887			GIMBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

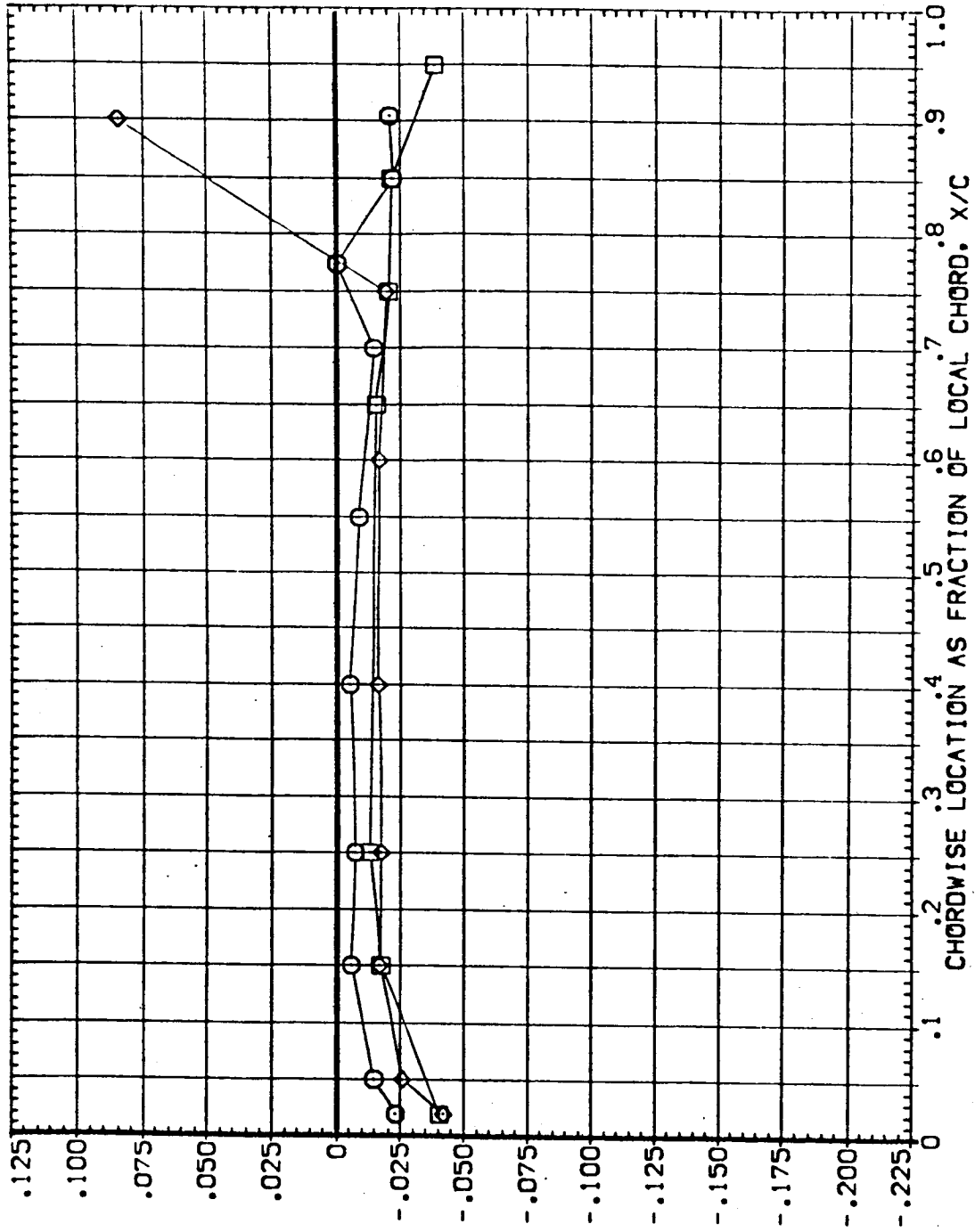


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW13)

SYMBOL	2N/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.299	4.000	.000	RUDDER	.000	MACH	.900
□	.364			GIMBAL	1.000		
◇	.427						
△	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

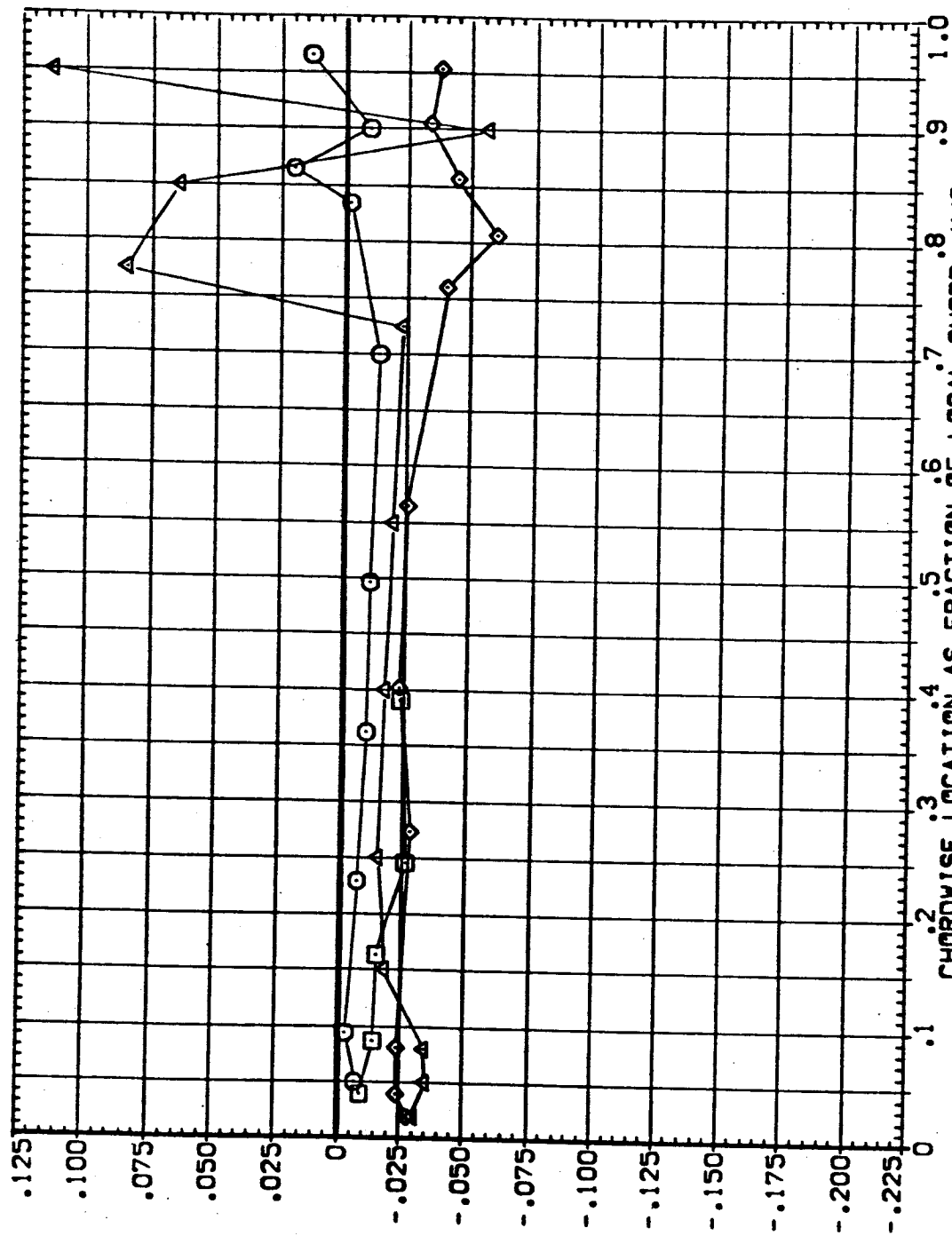


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW13)

SYMBOL	Z1/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.641	4.000	.000	RUDER	.000	MACH	.900
□	.780			GIMBAL	1.000		
◇	.887						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

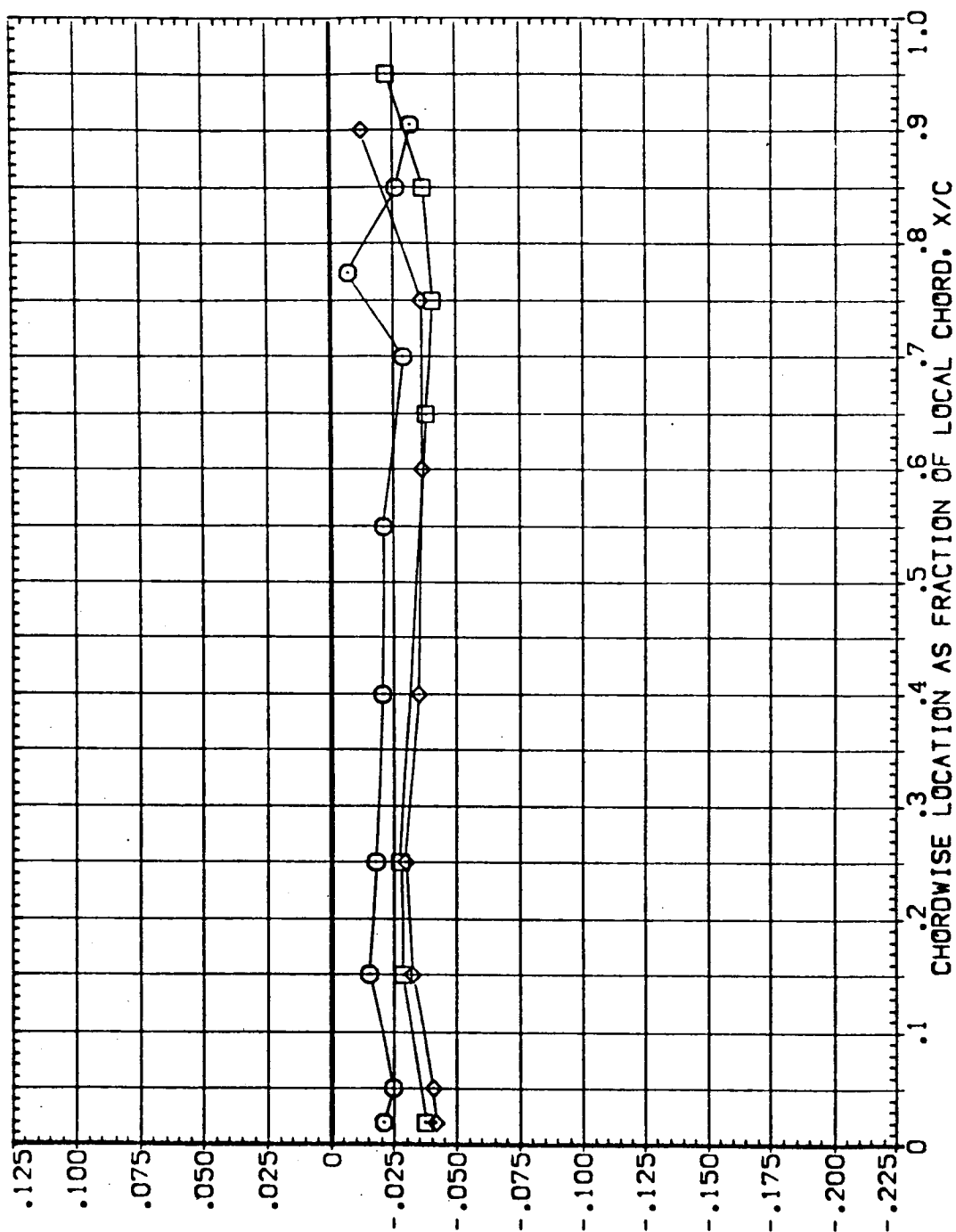


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW14)

SYMBOL	21/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.299	.000	-4.000	RUDER	.000	MACH	1.100
◇	.364			GIMBAL	1.000		
△	.427						
▽	.534						

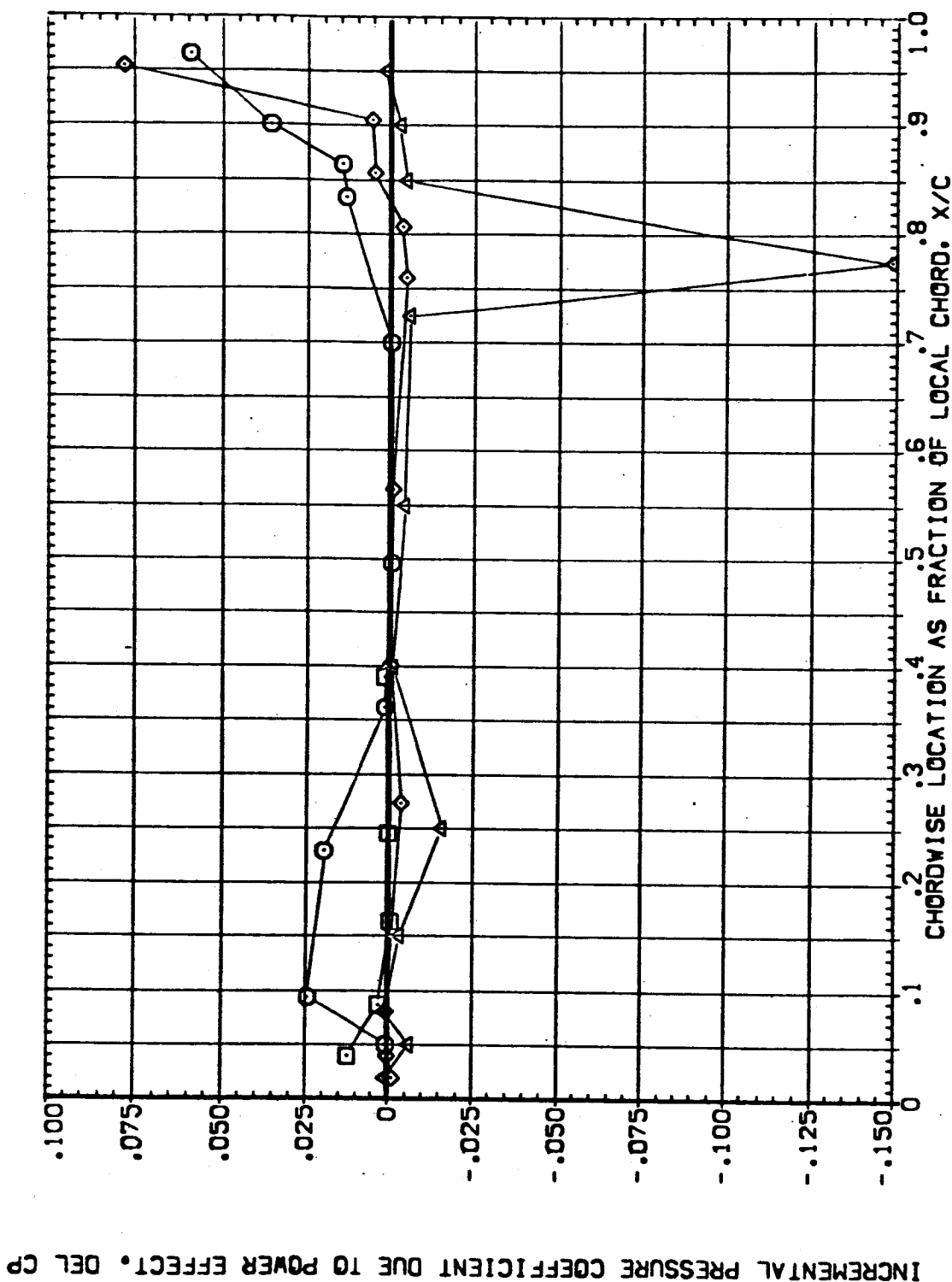


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW14)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.641	.000	-4.000	RUDER	.000	MACH	1.100
□	.780			GIMBAL	1.000		
◇	.687						

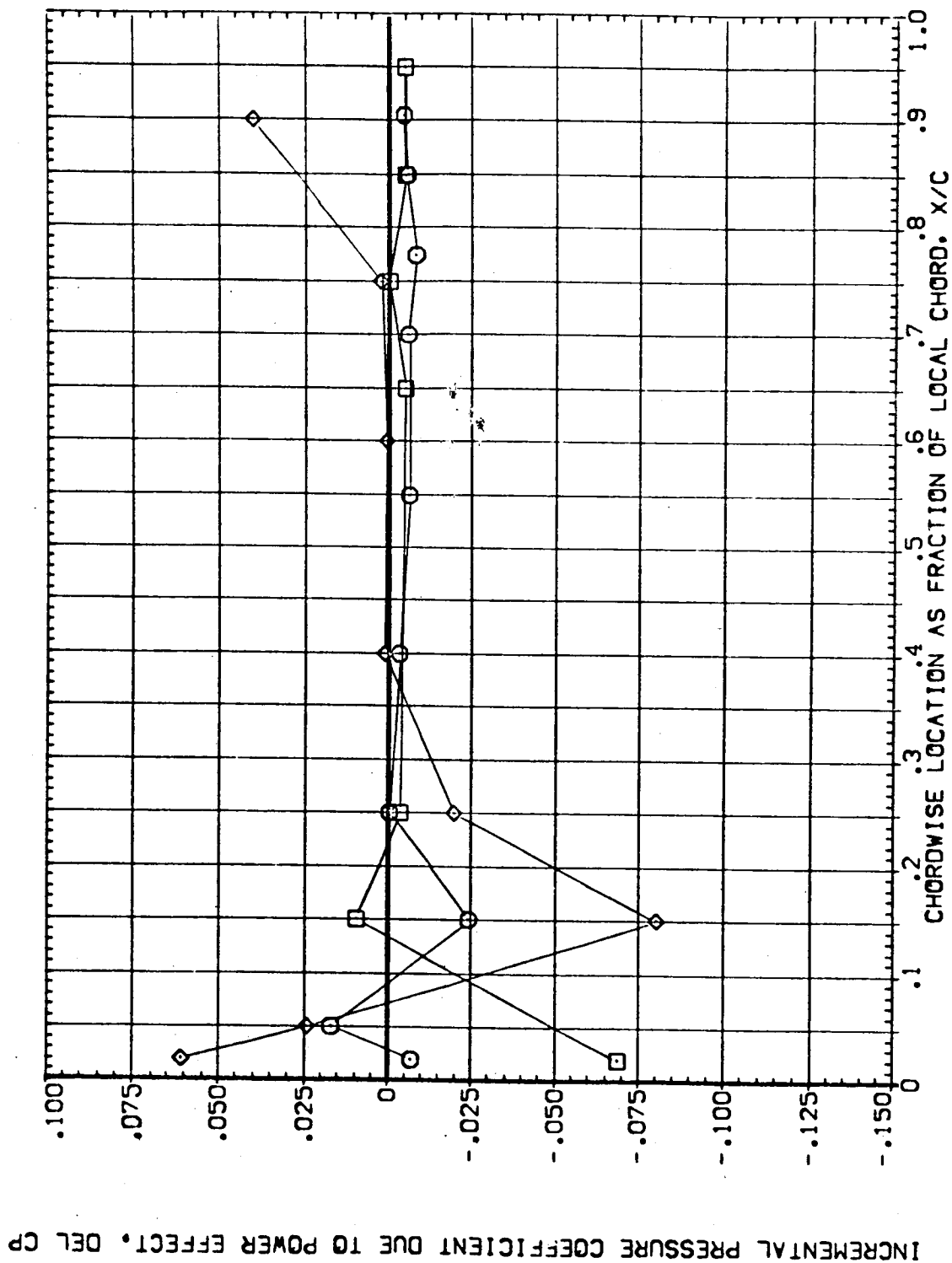


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW14)

SYMBOL	2V/B	BETA	ALPHA	ELV-18	ELV-08	PARAMETRIC VALUES
◇	.299	.000	.000	RUDDER	.000	MACH
□	.364	.000	.000	GIMBAL	1.000	
◇	.427					
◇	.534					

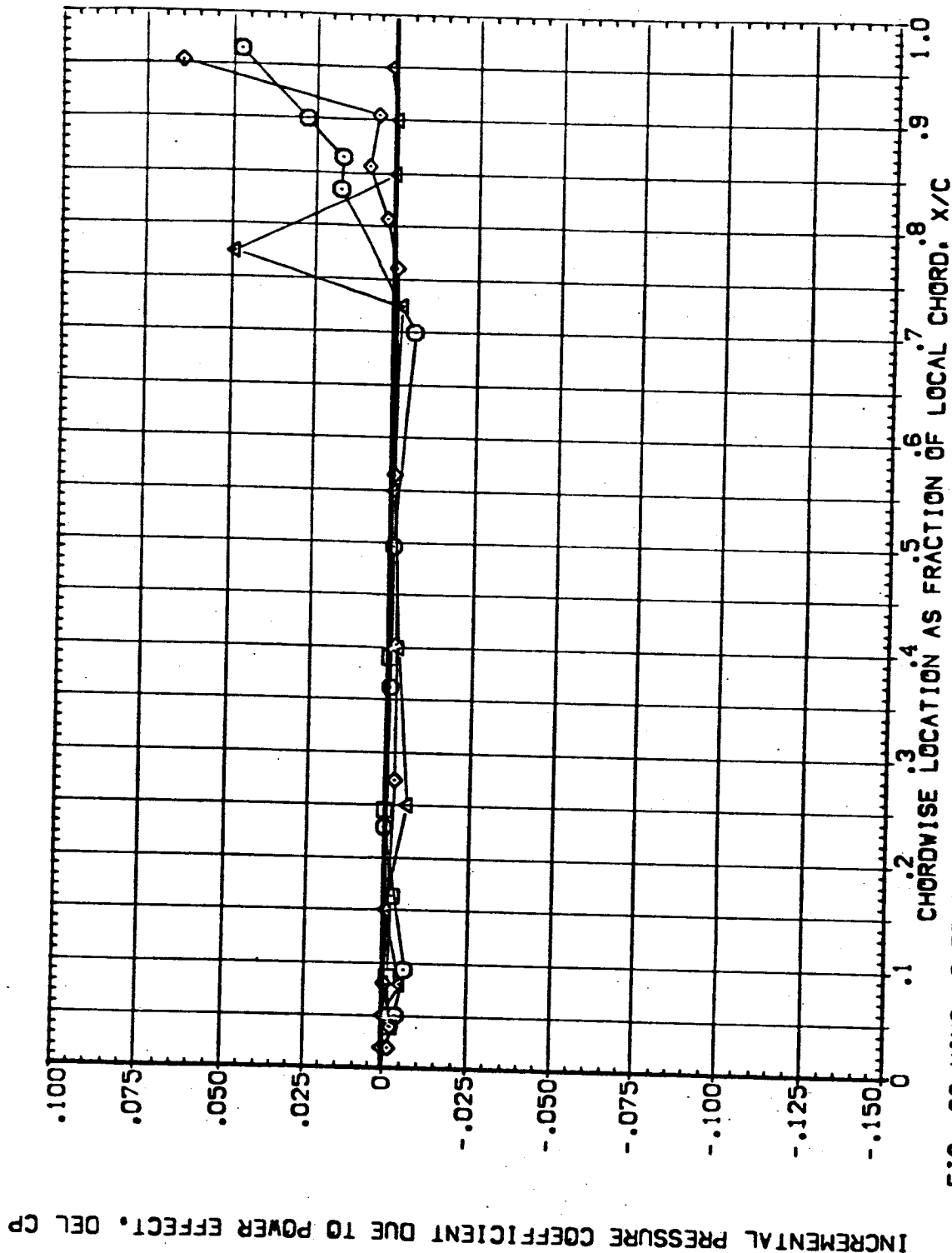


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW14)

SYMBOL	Z/Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.641	.000	.000	RUDDER	.000	1.000	4.000
□	.780			GIMBAL			1.100
◇	.887						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

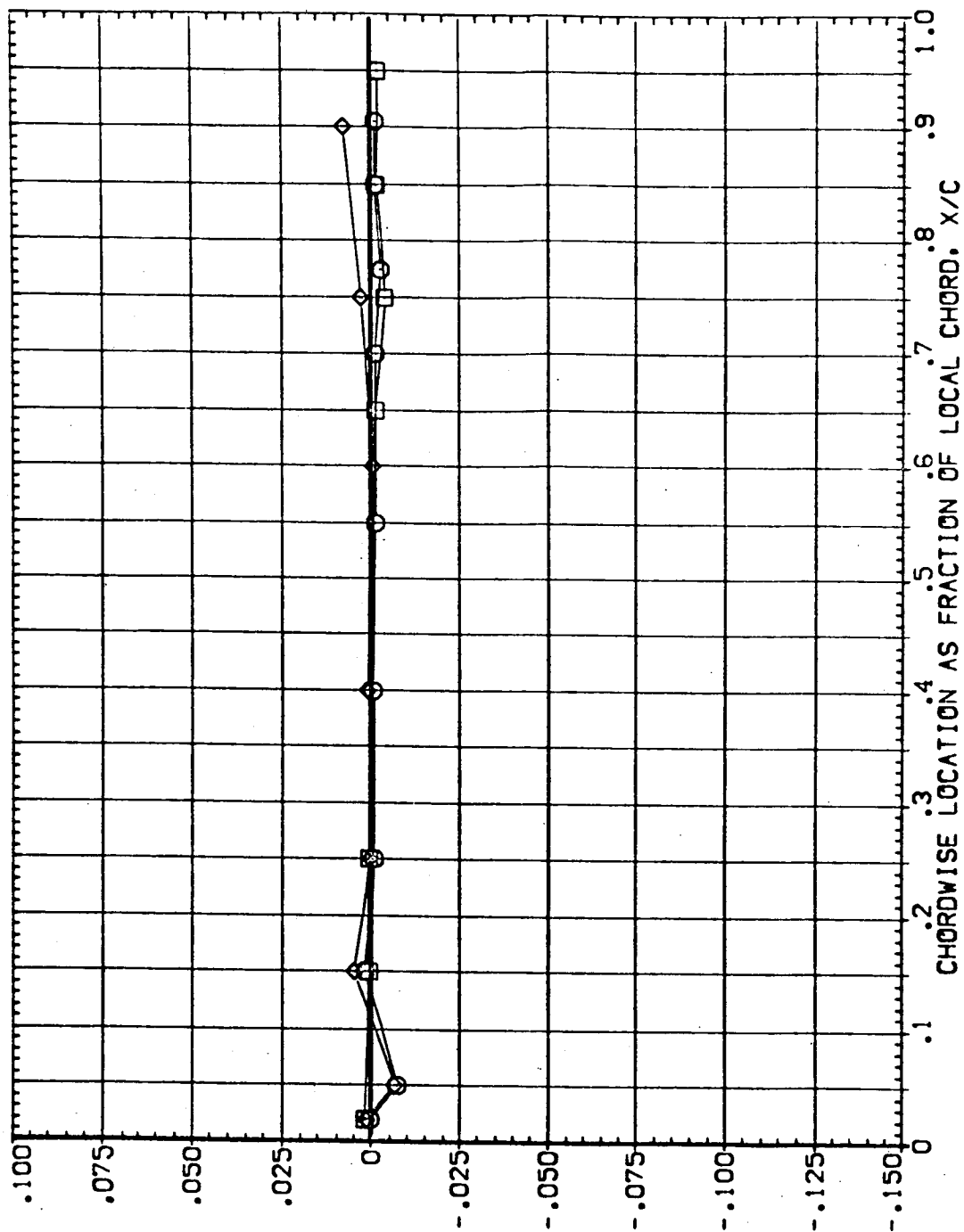


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW14)

SYMBOL	2N/B	BETA	ALPHA	ELV-1B	ELV-08	PARAMETRIC VALUES
○	.299	.000	4.000	RUDER	.000	MACH
□	.364			GIMBAL	1.000	
◇	.427					
△	.534					

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

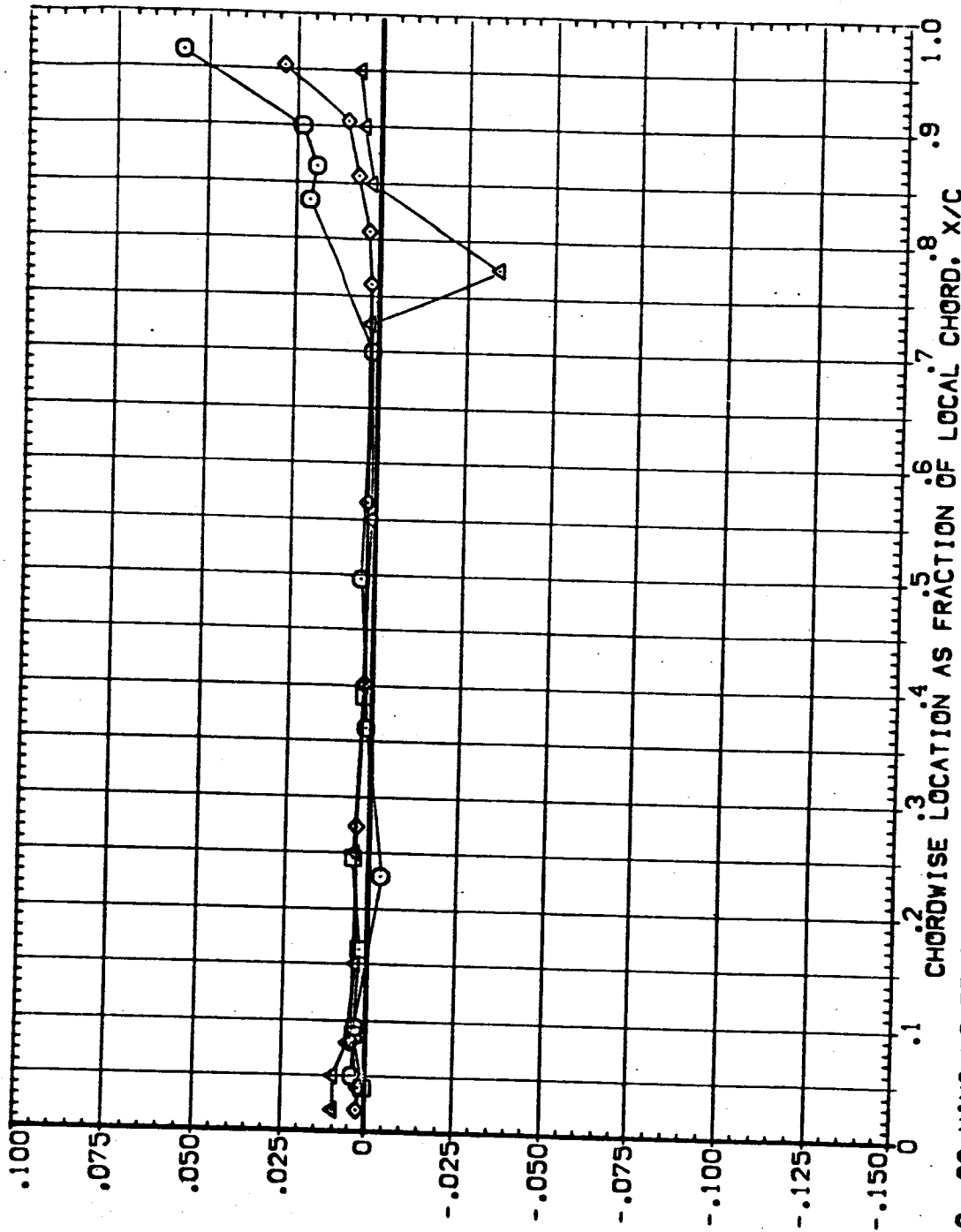


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW14)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES
○	.641	.000	4.000	ELV-18 8.000 ELV-08 4.000
□	.780			RUDER .000 MACH 1.100
◇	.887			GIMBAL 1.000

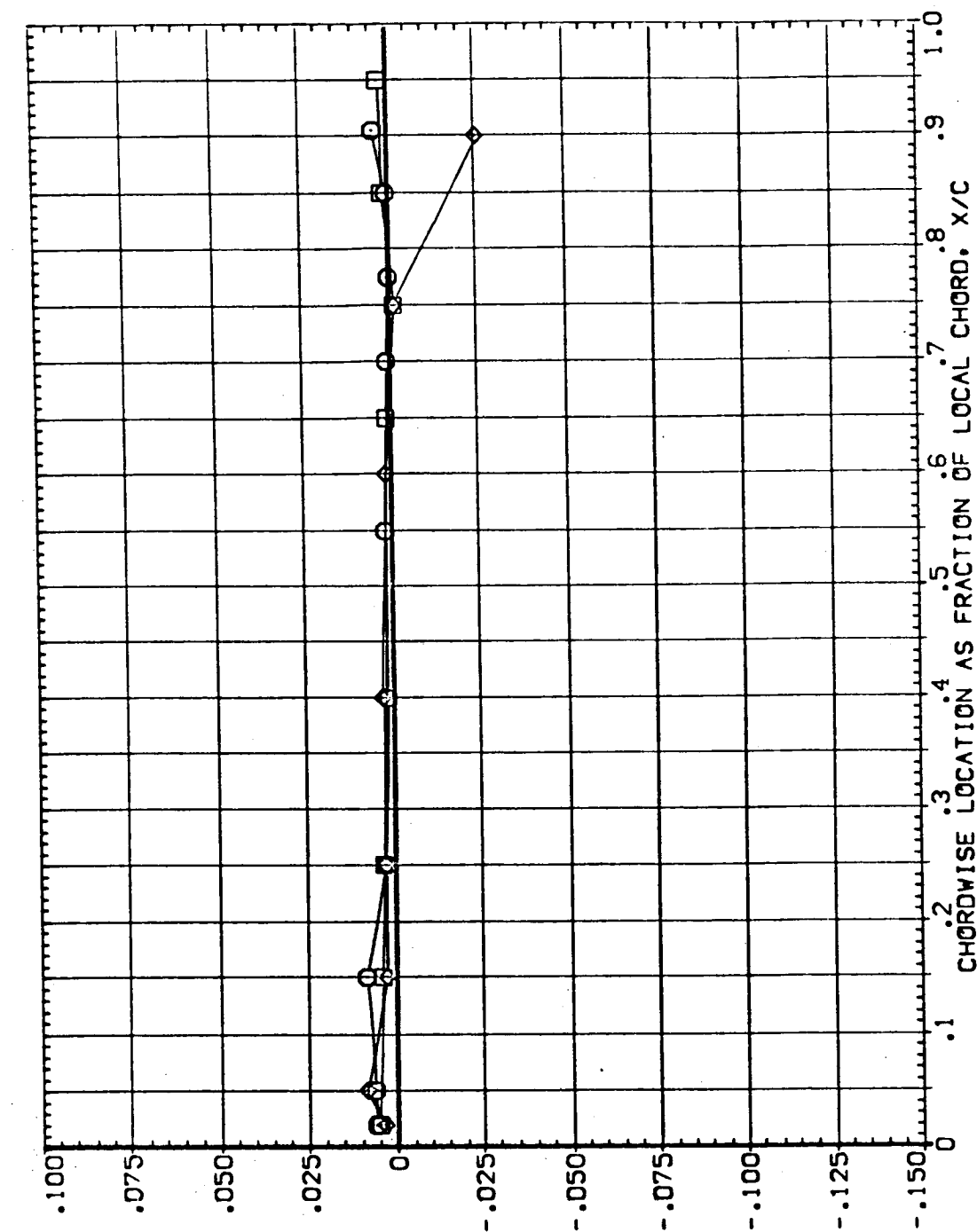


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW14)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-00	MACH
○	.299	-4.000	.000	8.000	8.000	4.000	1.100
□	.364			RUDDER	.000		
◇	.427			GIMBAL	1.000		
△	.534						

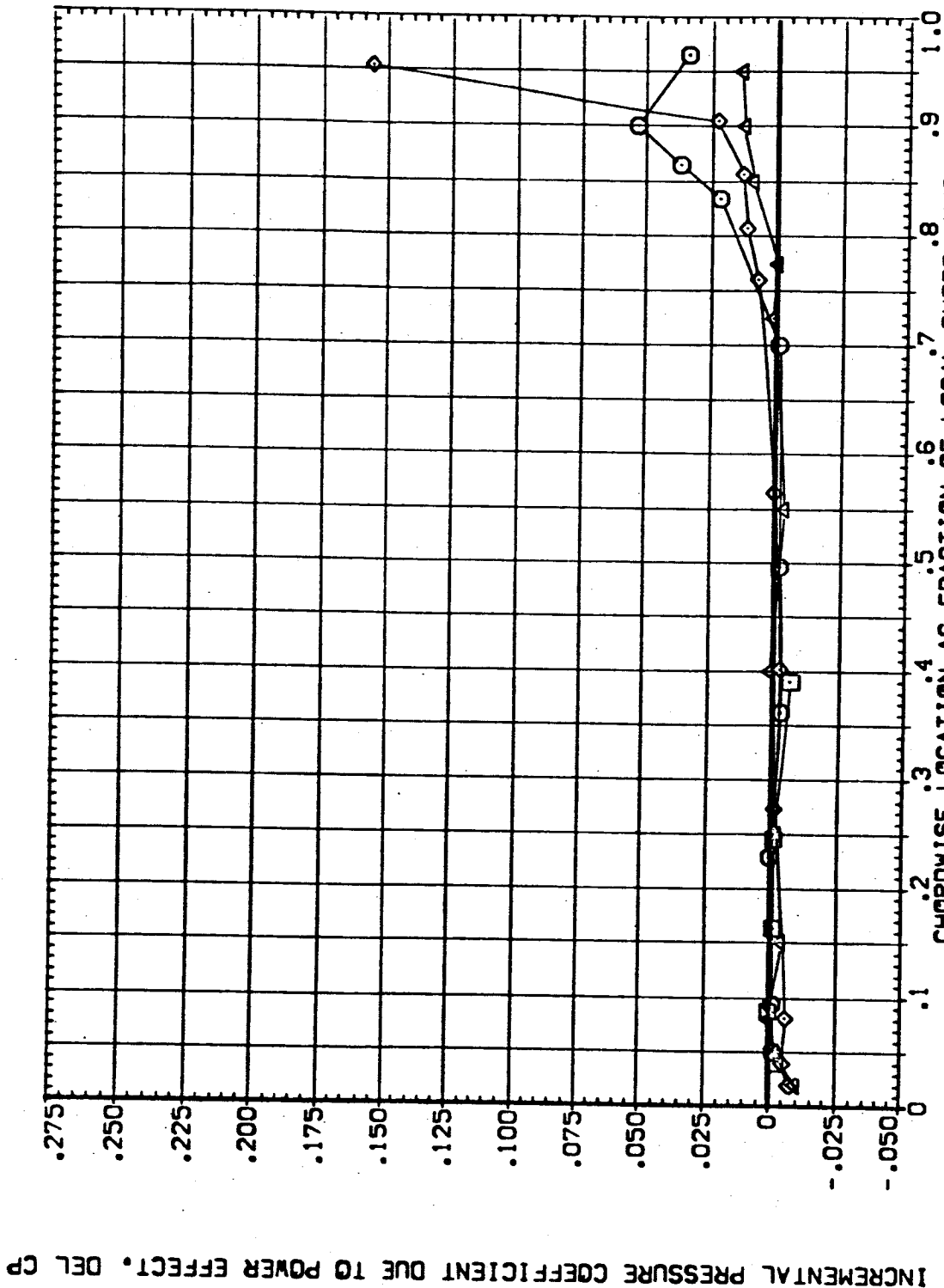


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW14)

SYMBOL $2\gamma/B$ BETA ALPHA

○ .641 -4.000 .000

□ .780

◇ .887

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.100

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

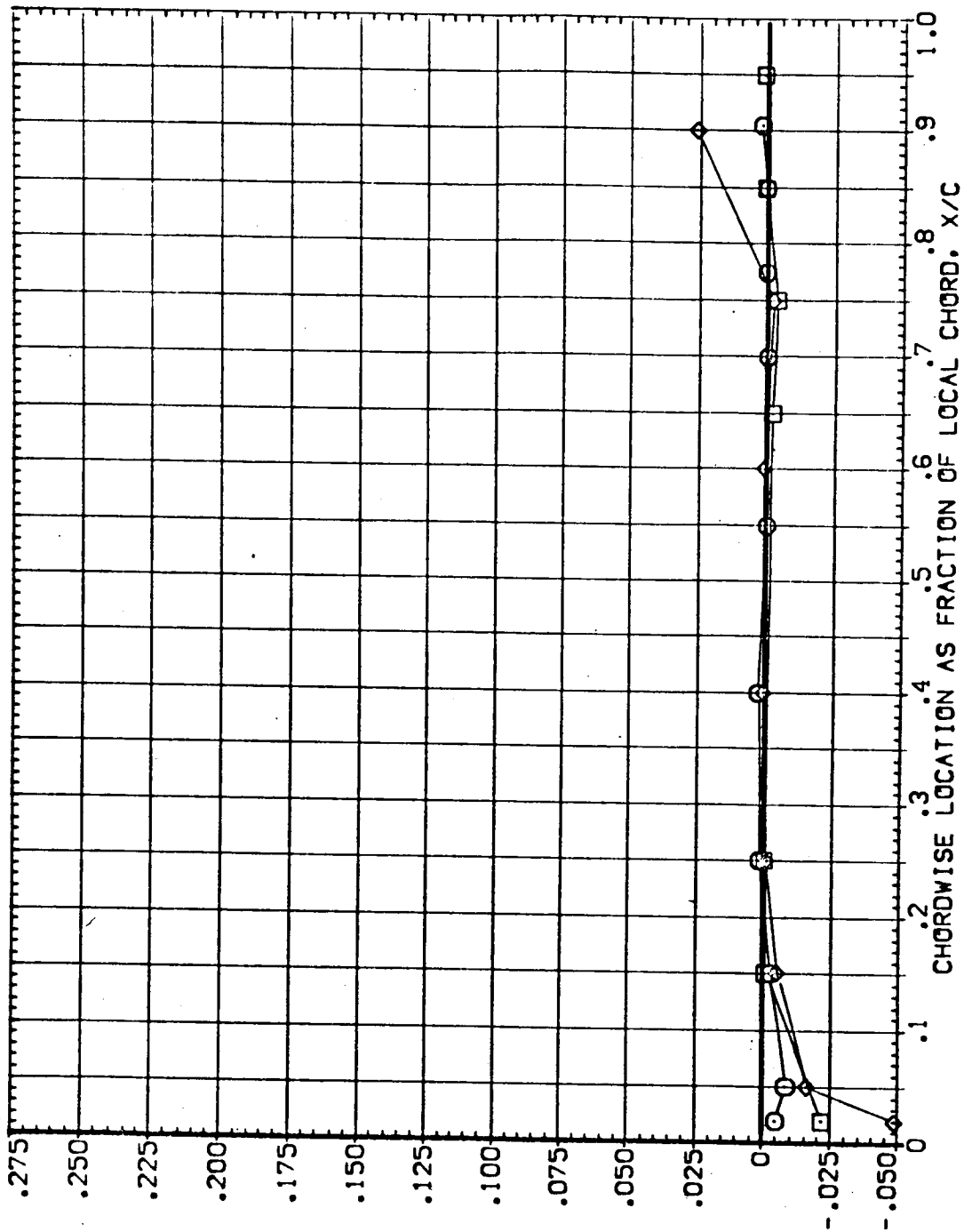


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW14)

SYMBOL	Z1/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.299	4.000	.000	RUDDER	.000	1.000	4.000
□	.364			GIMBAL			1.100
◇	.427						
△	.534						

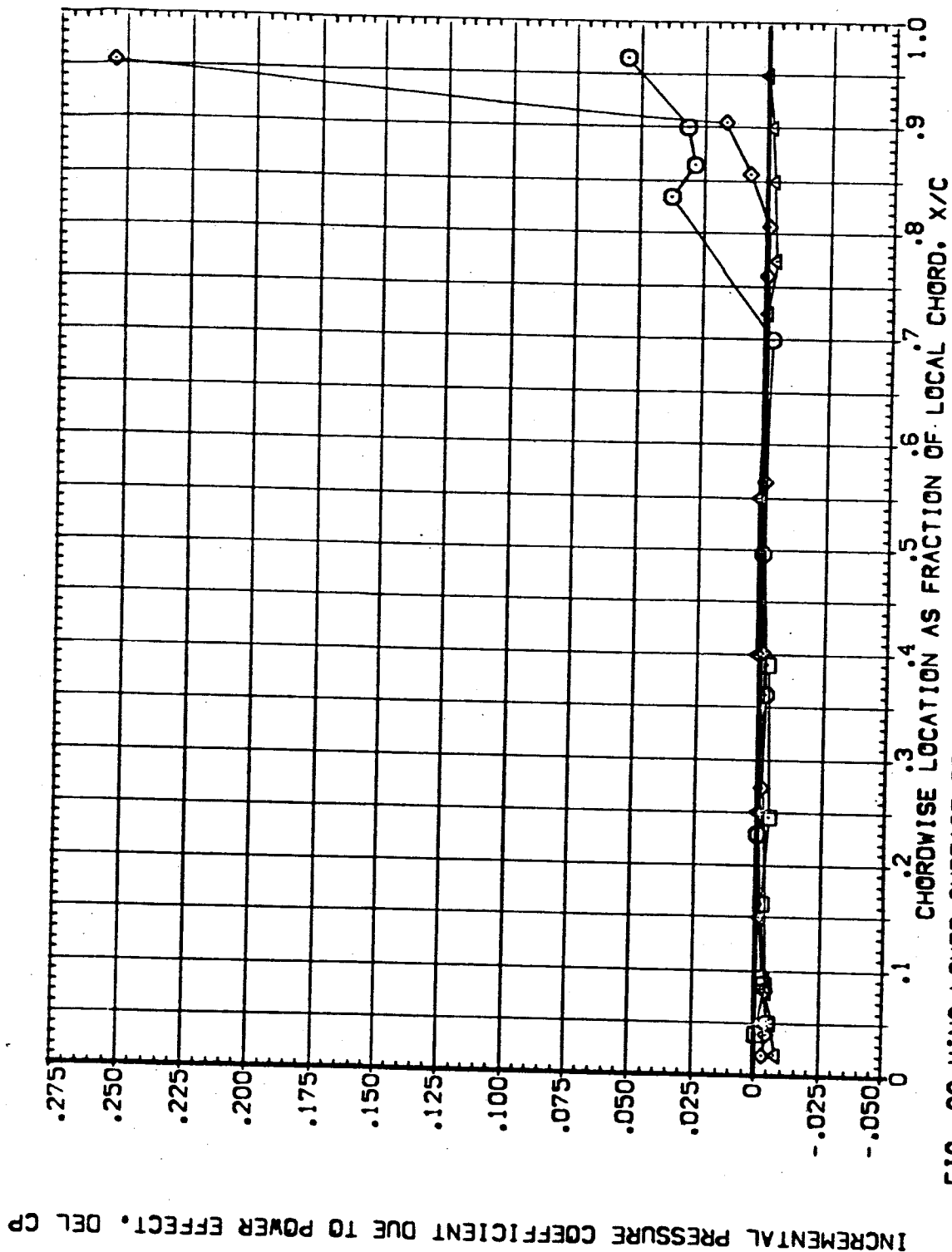


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW14)

SYMBOL 2Y/B BETA ALPHA

○ .641 4.000 .000

○ .780

◇ .887

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDDER .000 MACH 1.100

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

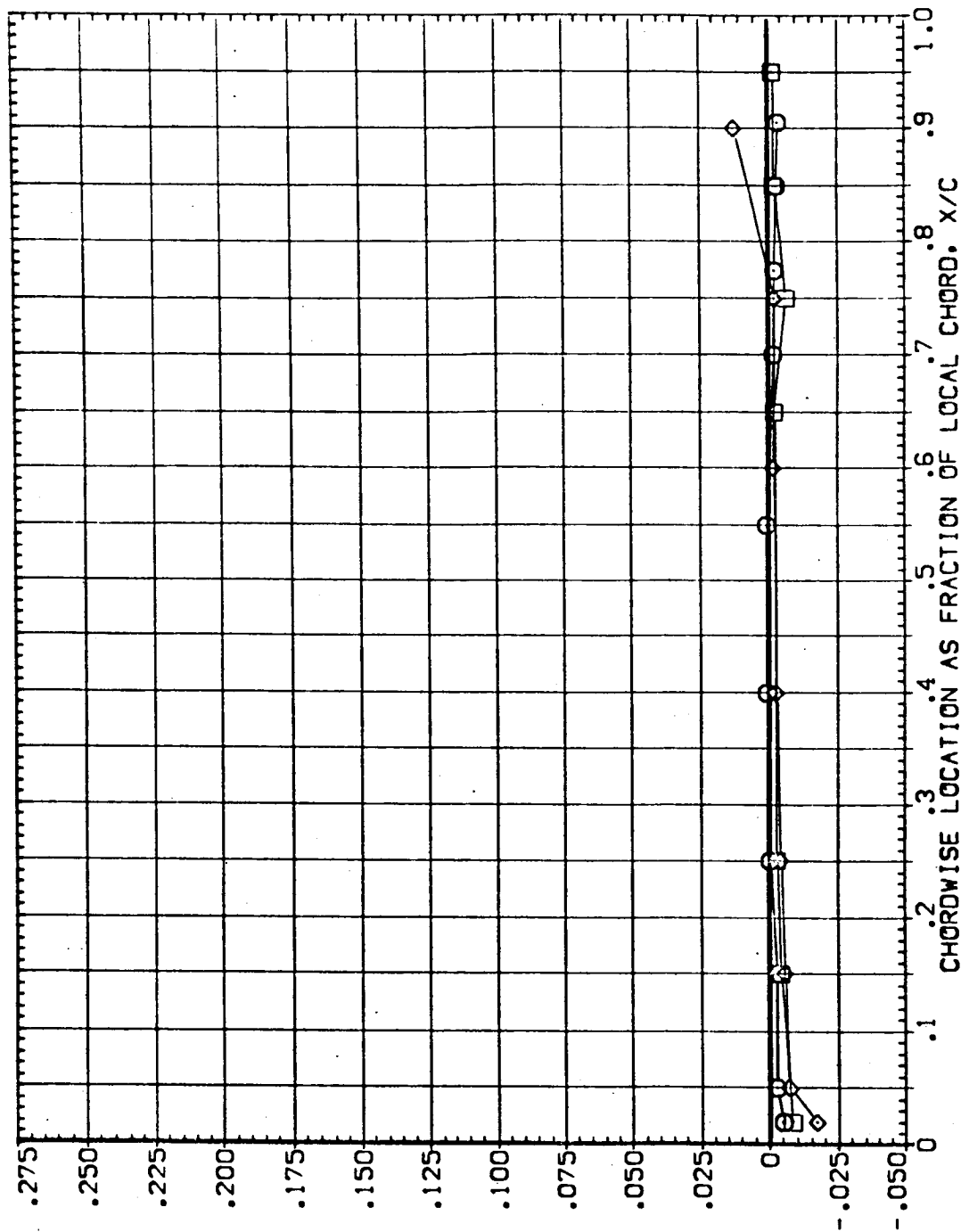


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW15)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.299	.000	-4.000		8.000	1.000	4.000
□	.364			RUDDER	.000		1.250
◇	.427			GIMBAL			
△	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

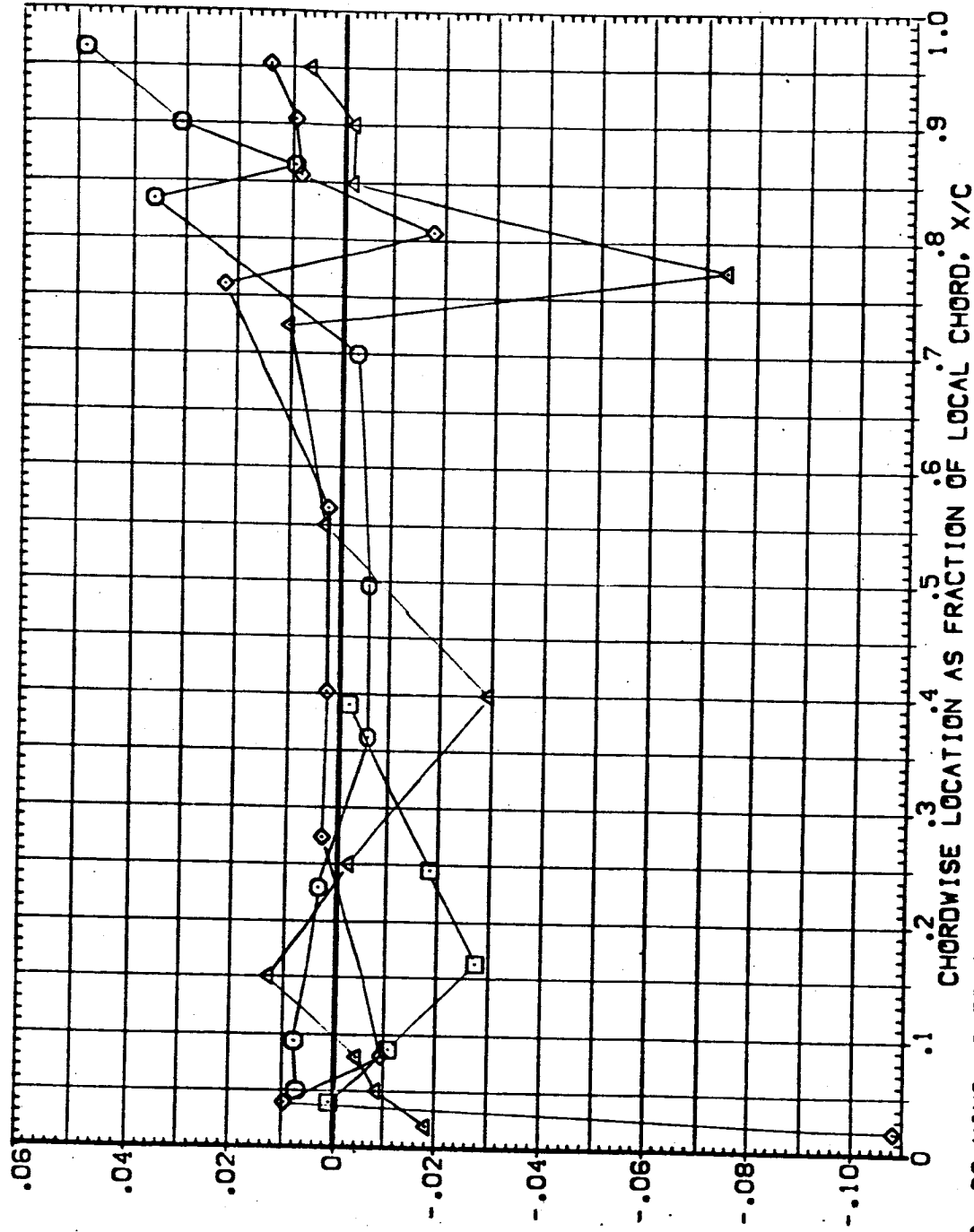


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL 2Y/B BETA ALPHA
 ○ .641 .000 -4.000
 □ .780
 ◇ .887

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

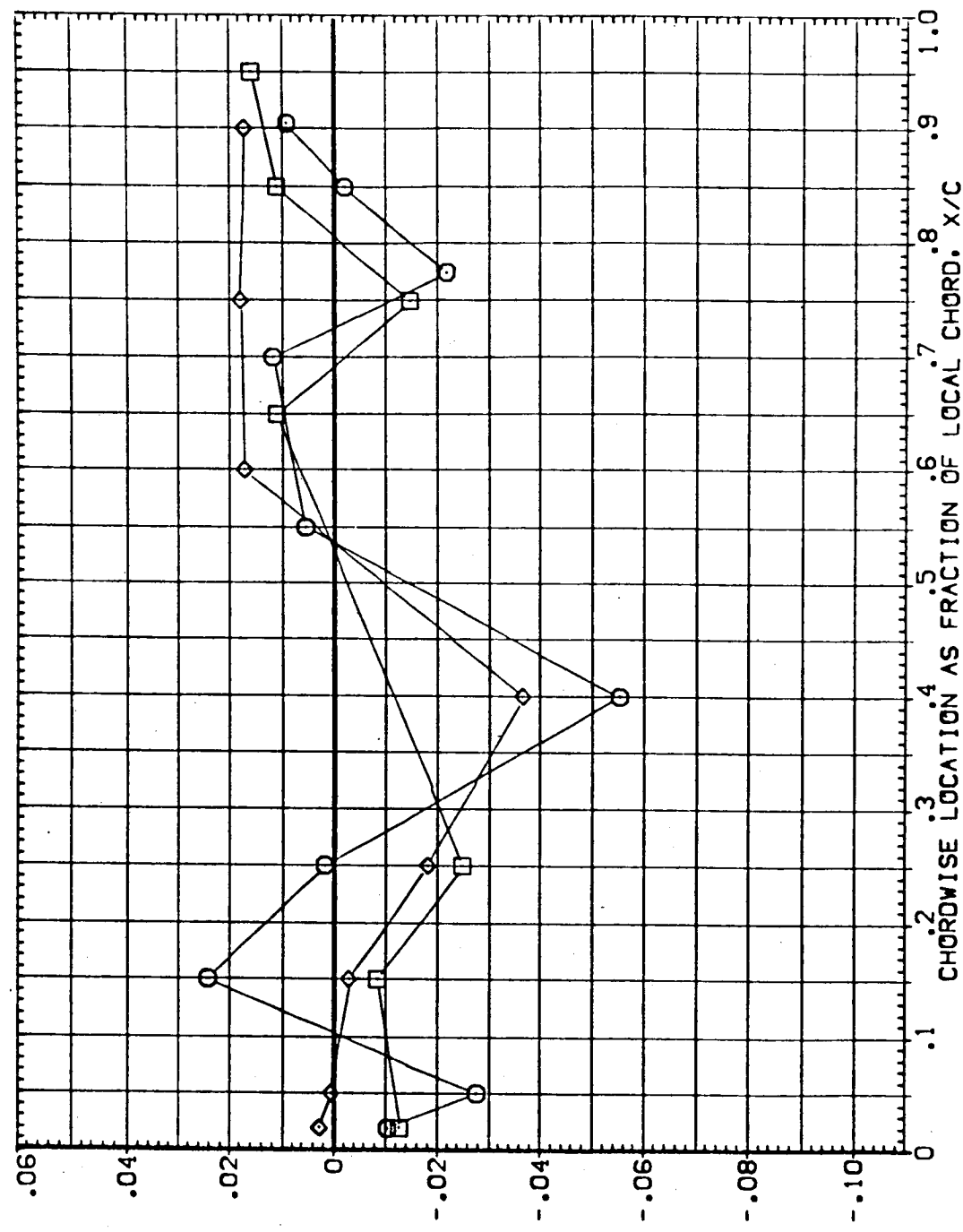


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW15)

SYMBOL	2N/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.299	.000	.000	RUDER	.000	MACH	1.250
□	.364			GIMBAL	1.000		
◇	.427						
△	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

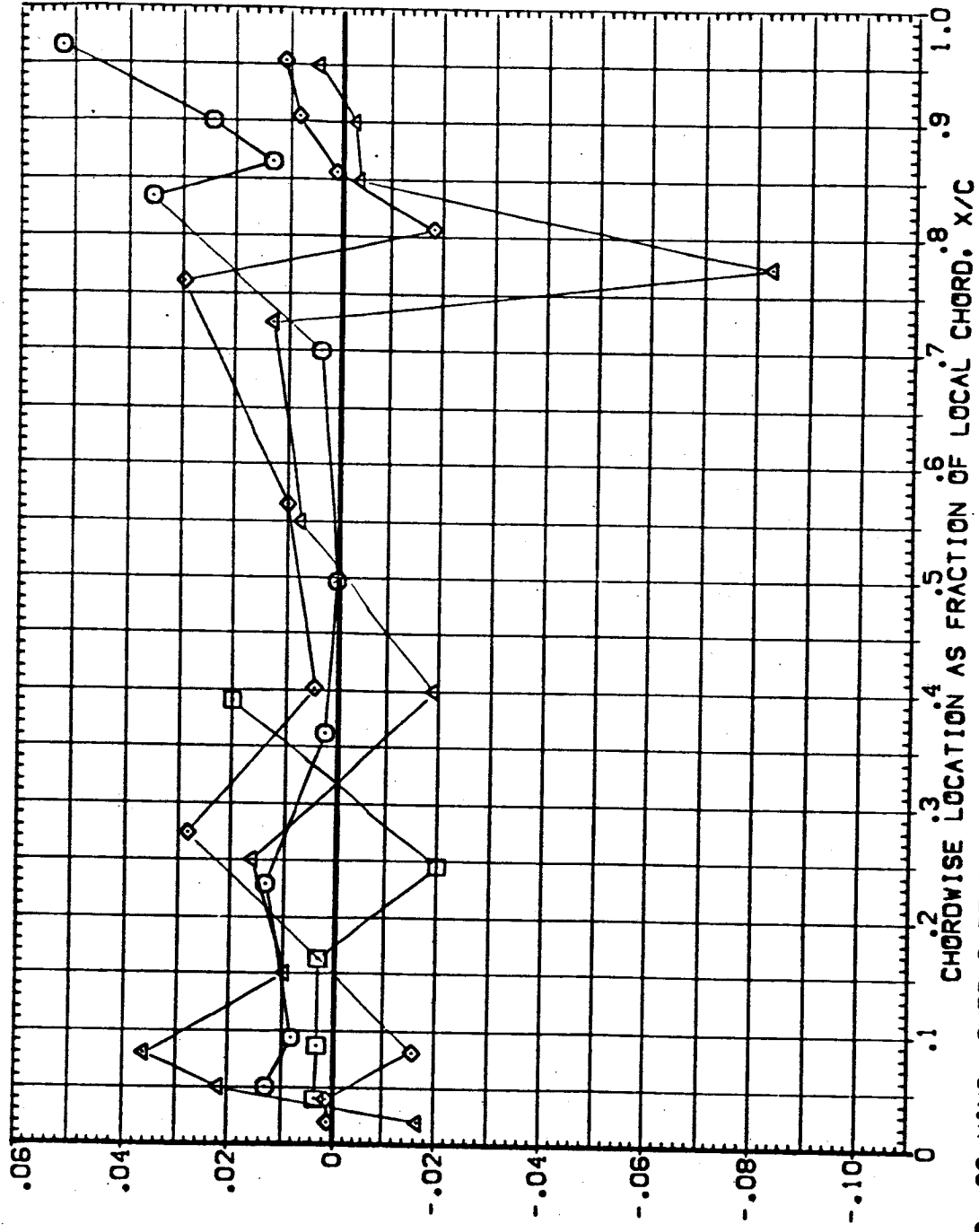


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW15)

SYMBOL	Z/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	ELV-08
○	.641	.000	.000	RUDER	.000	MACH	1.250
□	.780			GIMBAL	1.000		
◇	.887						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

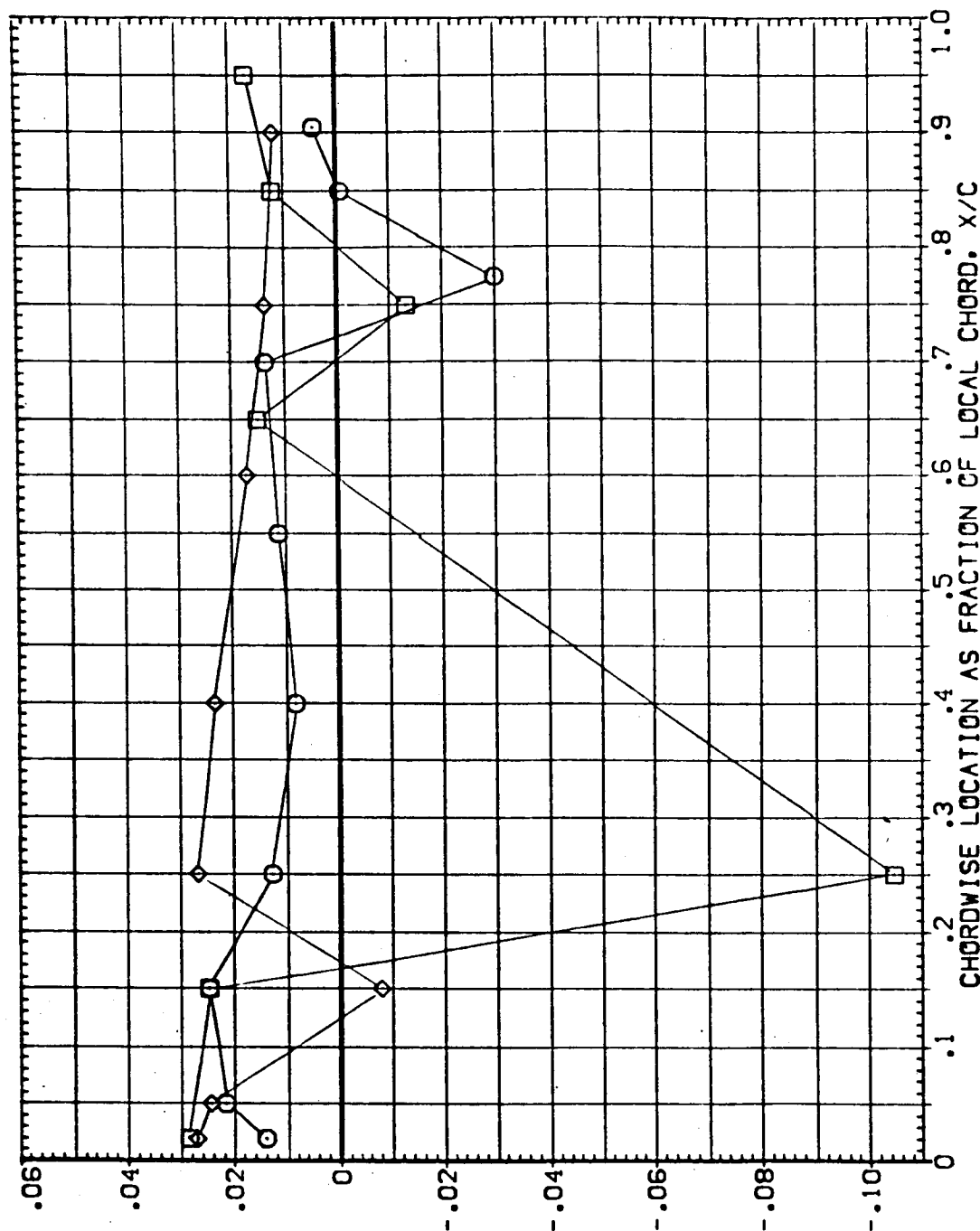


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW15)

SYMBOL	2N/B	BETA	ALPHA	ELV-18	ELV-08	PARAMETRIC VALUES
○	.299	.000	4.000	RUDER	.000	MACH
□	.364			GIMBAL	1.000	
◇	.427					
△	.534					

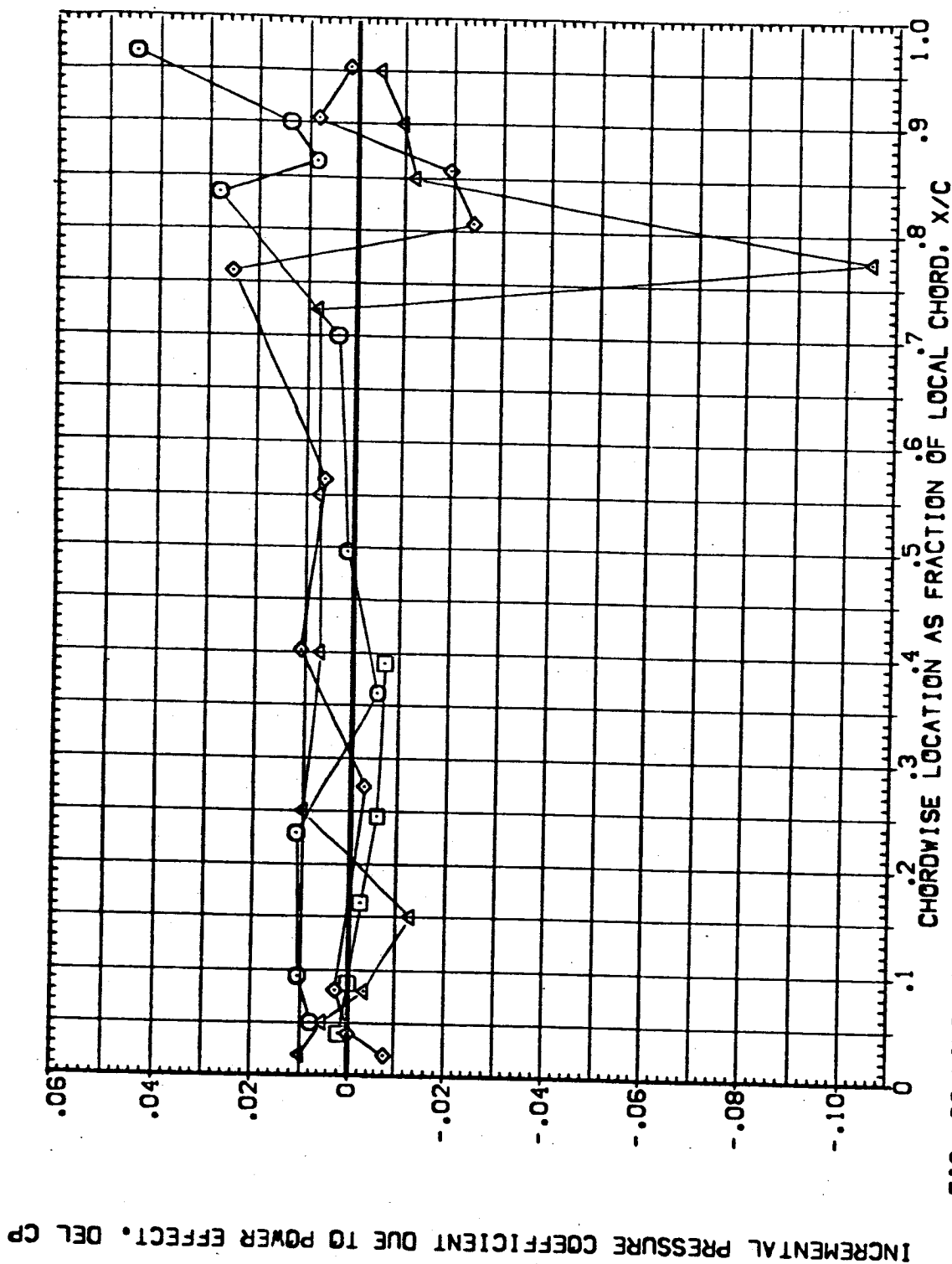


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-1B	ELV-08	ELV-08	MACH
○	.641	.000	4.000	RUDDER	.000	1.000	1.250
□	.780			GIMBAL			
◇	.687						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

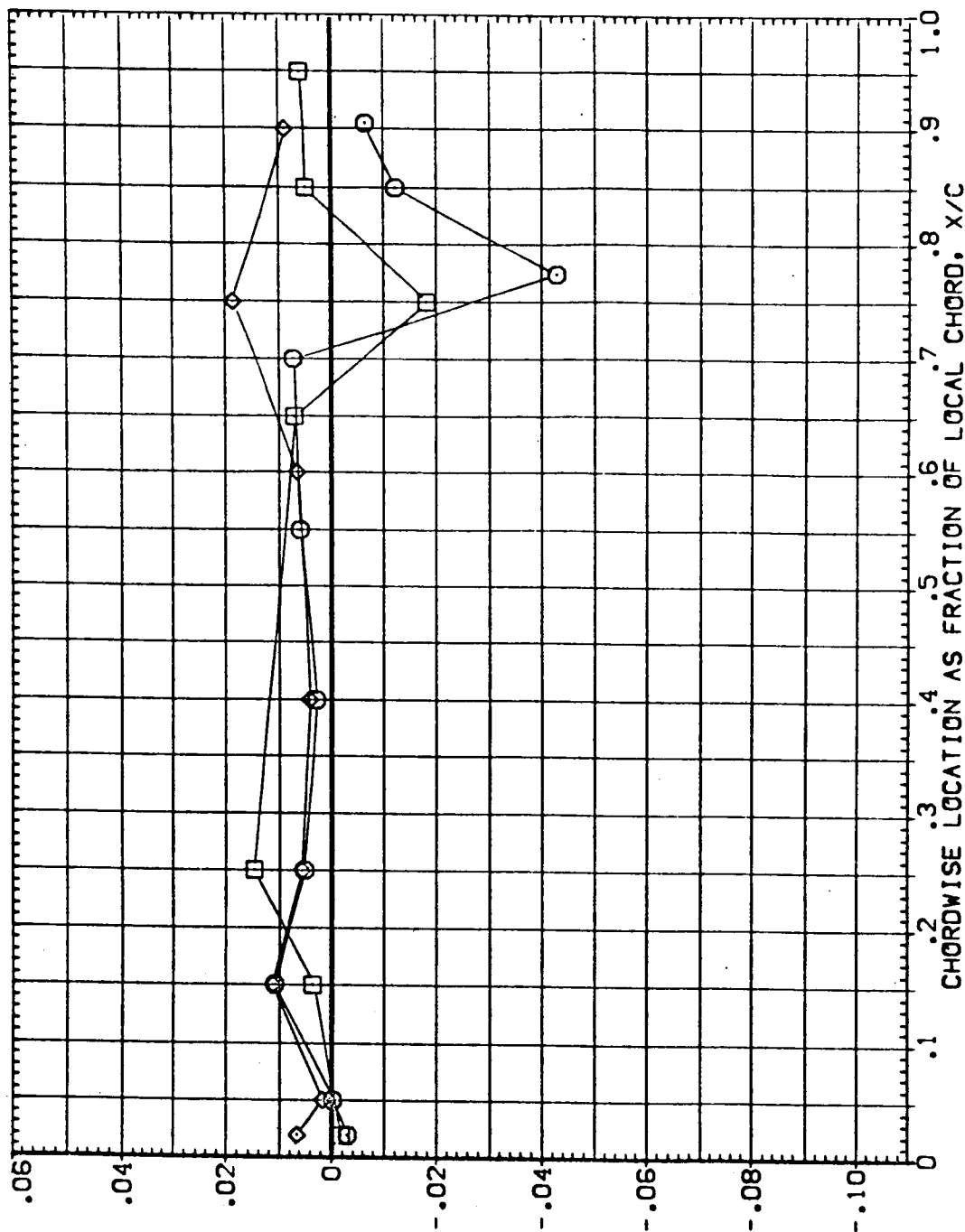


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW15)

SYMBOL	Z1/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
◇	.299	-4.000	.000		8.000	1.000	4.000
○	.364			RUDER	.000		1.250
△	.427			GIMBAL	1.000		
□	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

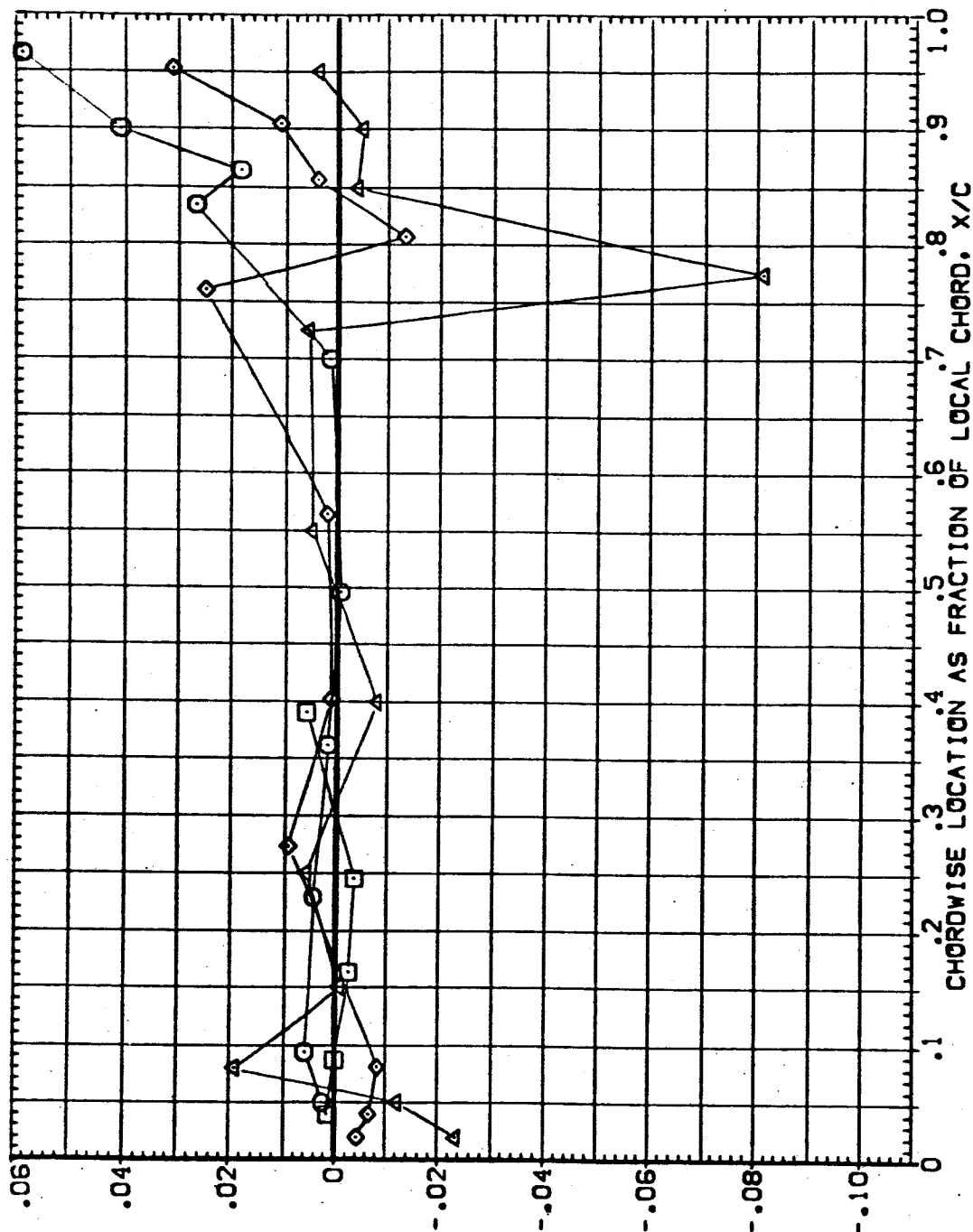


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW15)

SYMBOL 2Y/B BETA ALPHA

PARAMETRIC VALUES
ELV-18 8.000 ELV-08 4.000
RUDDER .000 MACH 1.250
GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

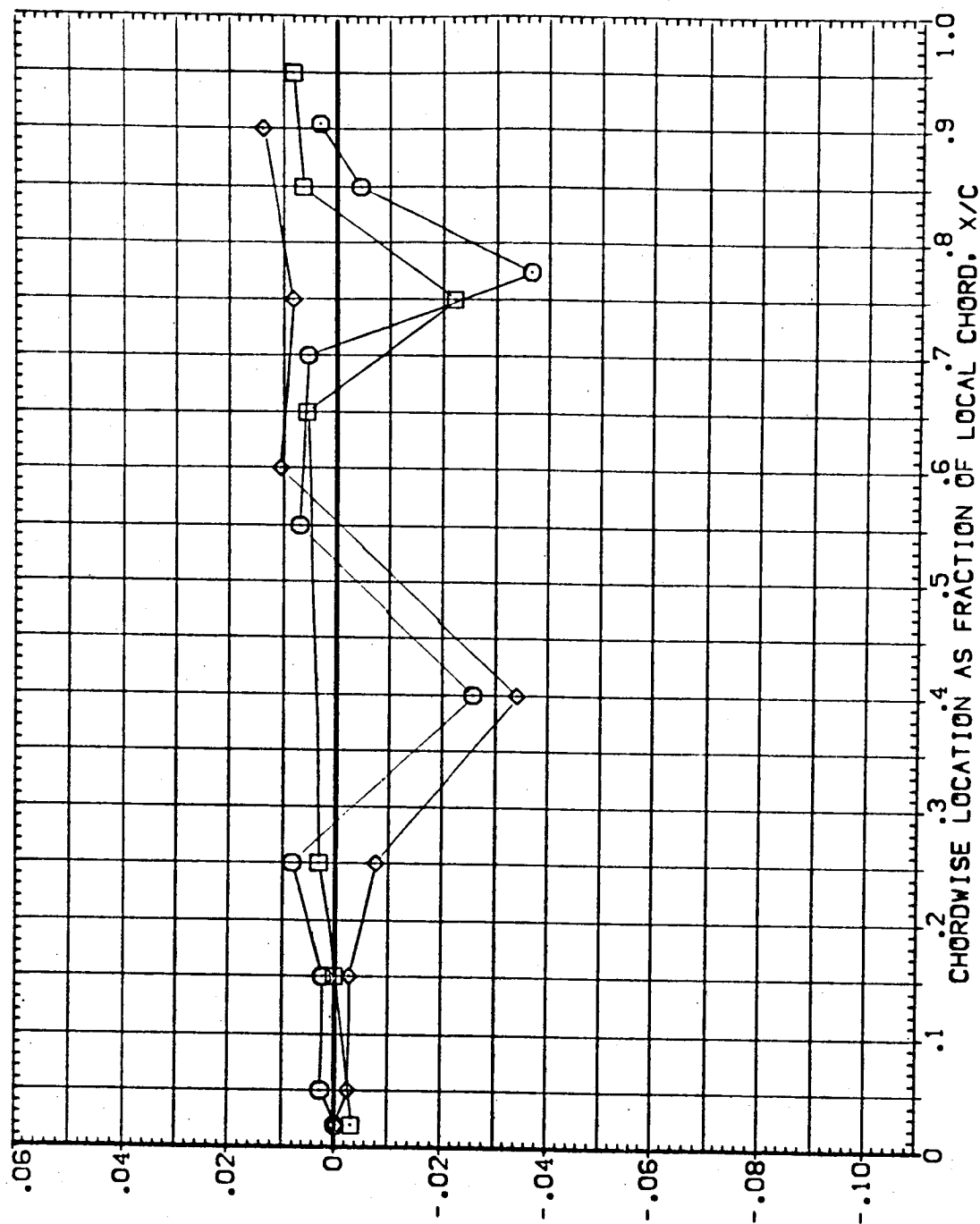


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 01S+STRUT SRB-NOM MPS-OFF LWR WING(FEUW15)

SYMBOL
○
□
◇
△

2V/B BETA ALPHA
.299 4.000 .000
.364
.427
.534

PARAMETRIC VALUES
ELV-18 8.000 ELV-08 4.000
RUDDER .000 MACH 1.250
GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

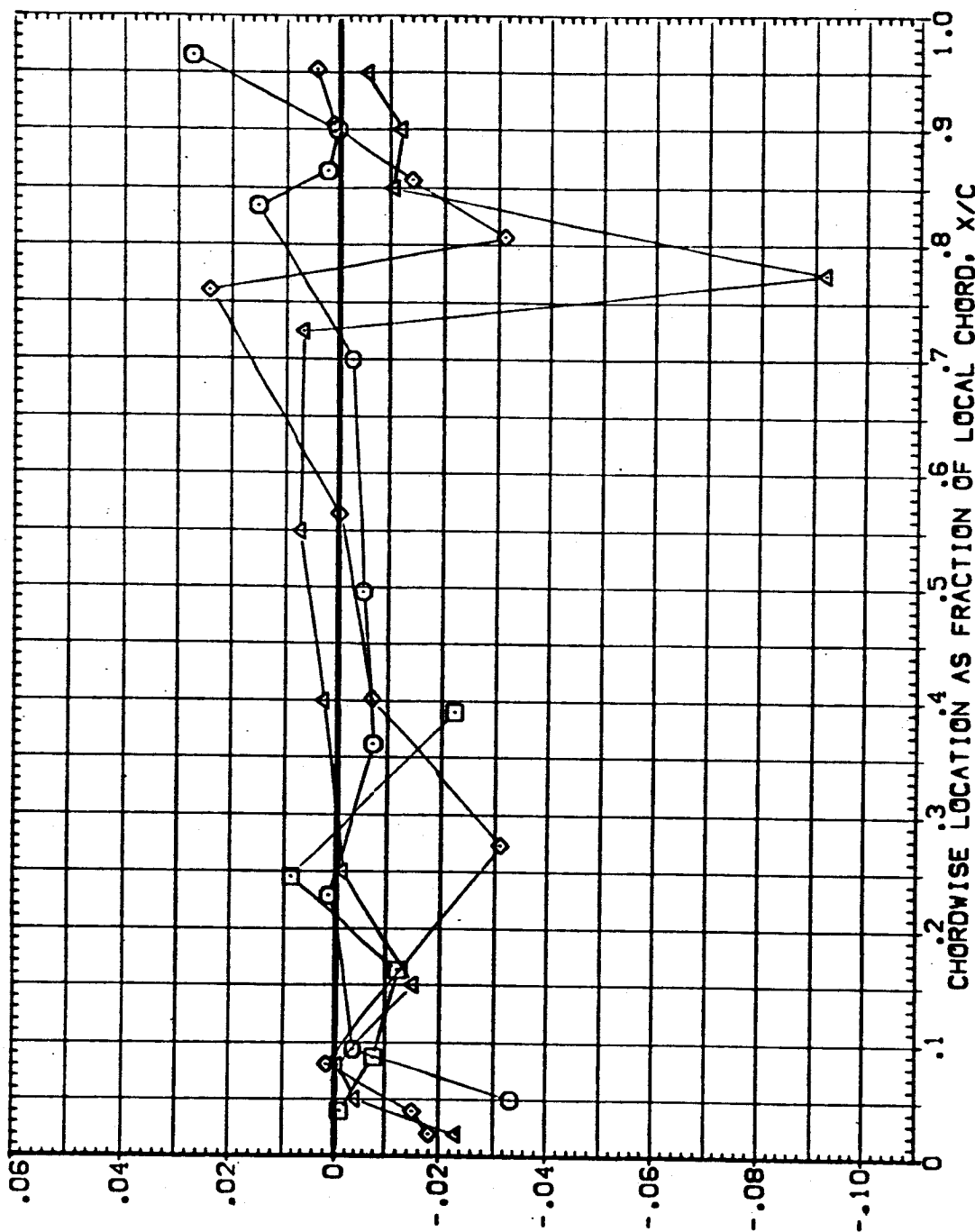


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+SIRUT SRB-NOM MPS-OFF LWR WING(FEUW15)

SYMBOL 2Y/B BETA ALPHA

PARAMETRIC VALUES

4.000
1.250

ELV-18
RUDDER
GIMBAL

.641
.780
.687

8.000
.000
1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

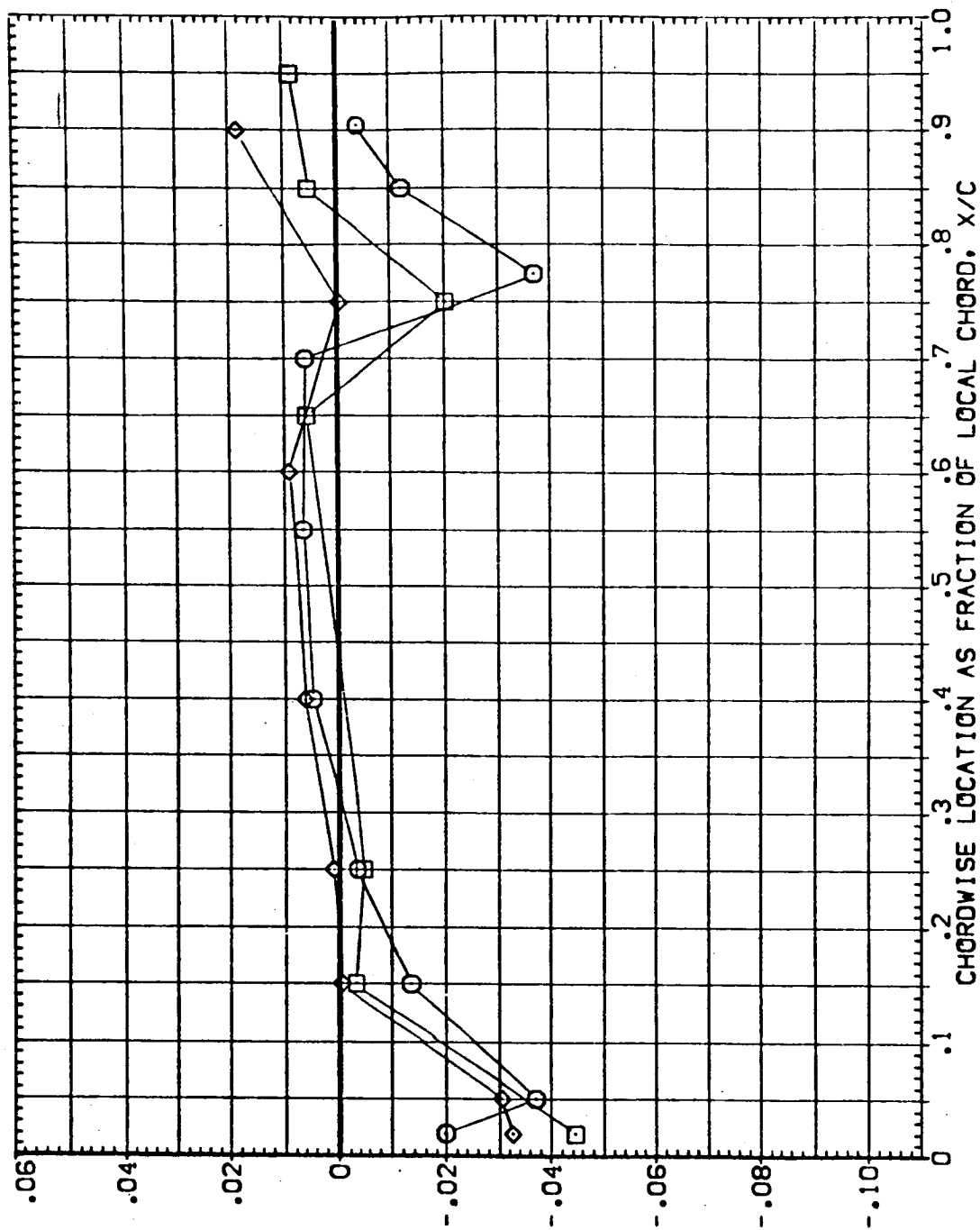


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW16)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES
○	.299	.000	-4.000	ELV-18 8.000 ELV-08 4.000
□	.364			RUDER .000 MACH 1.100
◇	.427			GIMBAL 1.000
△	.534			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

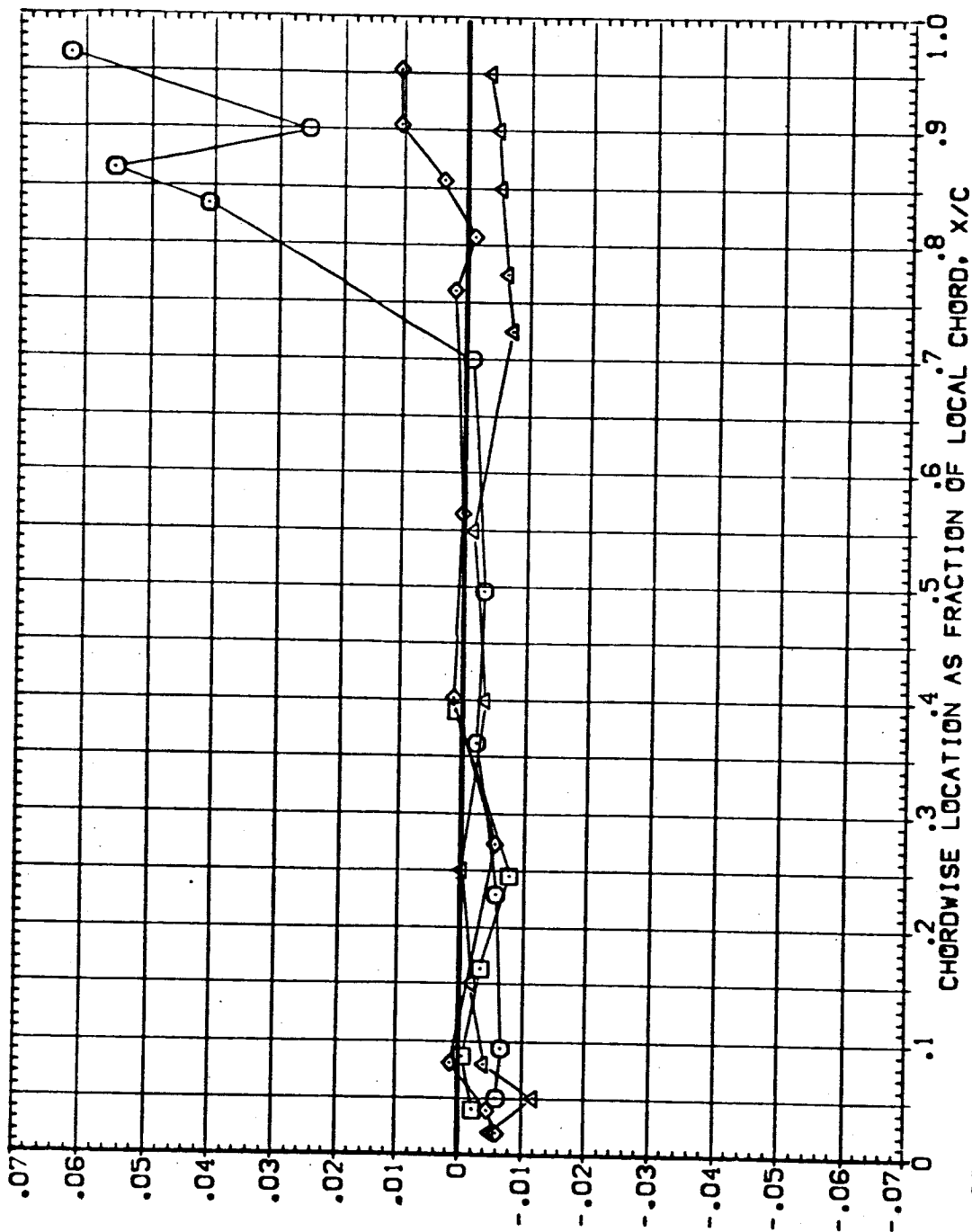


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

SYMBOL 2Y/B BETA ALPHA

○ .641 .000 -4.000

□ .780 .000 -4.000

◇ .687 .000 -4.000

PARAMETRIC VALUES

ELV-1B 8.000 ELV-08 4.000

RUDDER .000 MACH 1.400

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

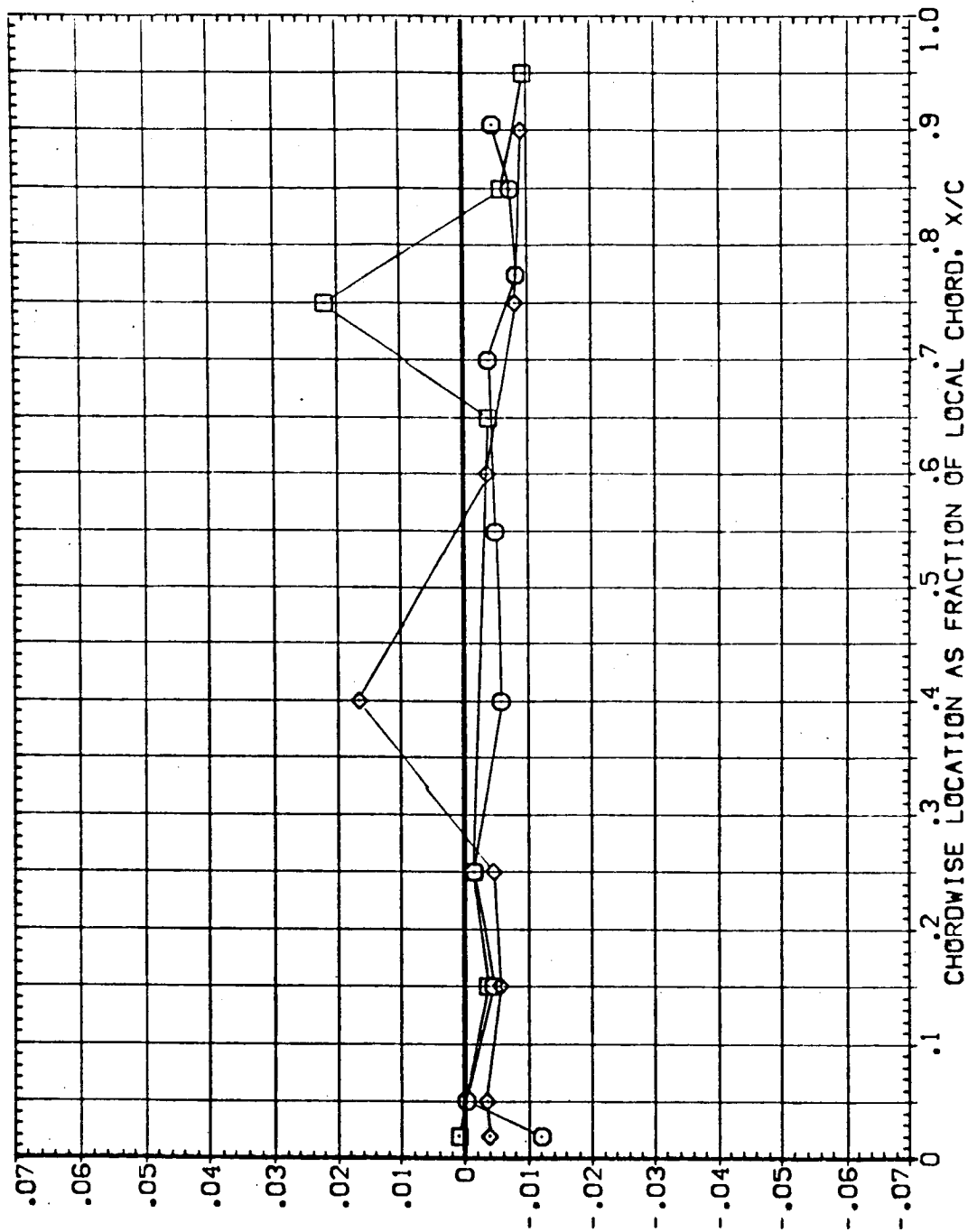


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 CIS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW16)

SYMBOL 2 γ /8 BETA ALPHA

○	.299	.000	.000
◇	.364	.000	.000
□	.427	.000	.000
△	.534	.000	.000

PARAMETRIC VALUES

ELV-18	8.000	ELV-08	4.000
RUDER	.000	MACH	1.400
GIMBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

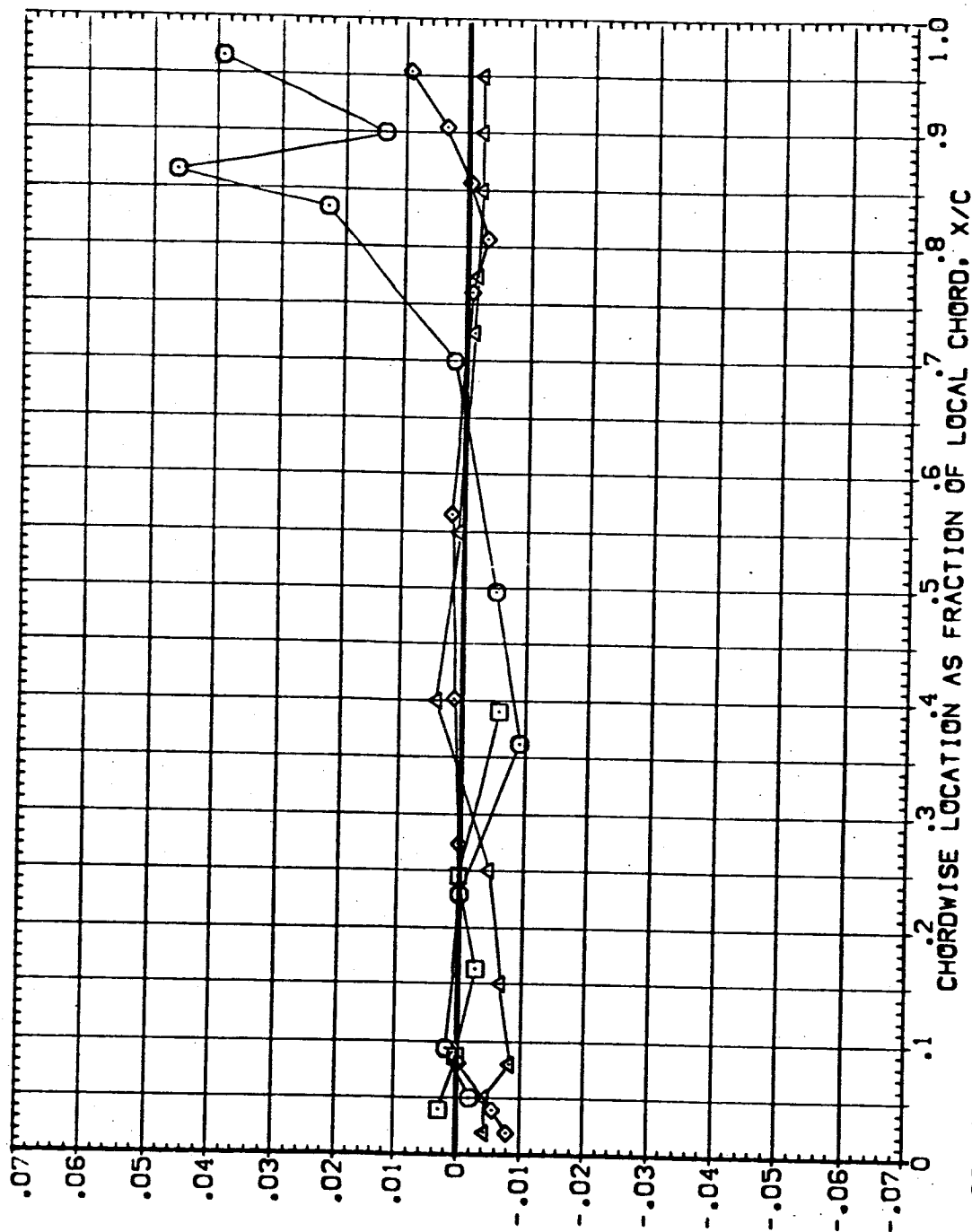


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EEUW16)

SYMBOL 21/B BETA ALPHA

PARAMETRIC VALUES
ELV-18 8.000 ELV-08 4.000
RUDDER .000 MACH 1.400
GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

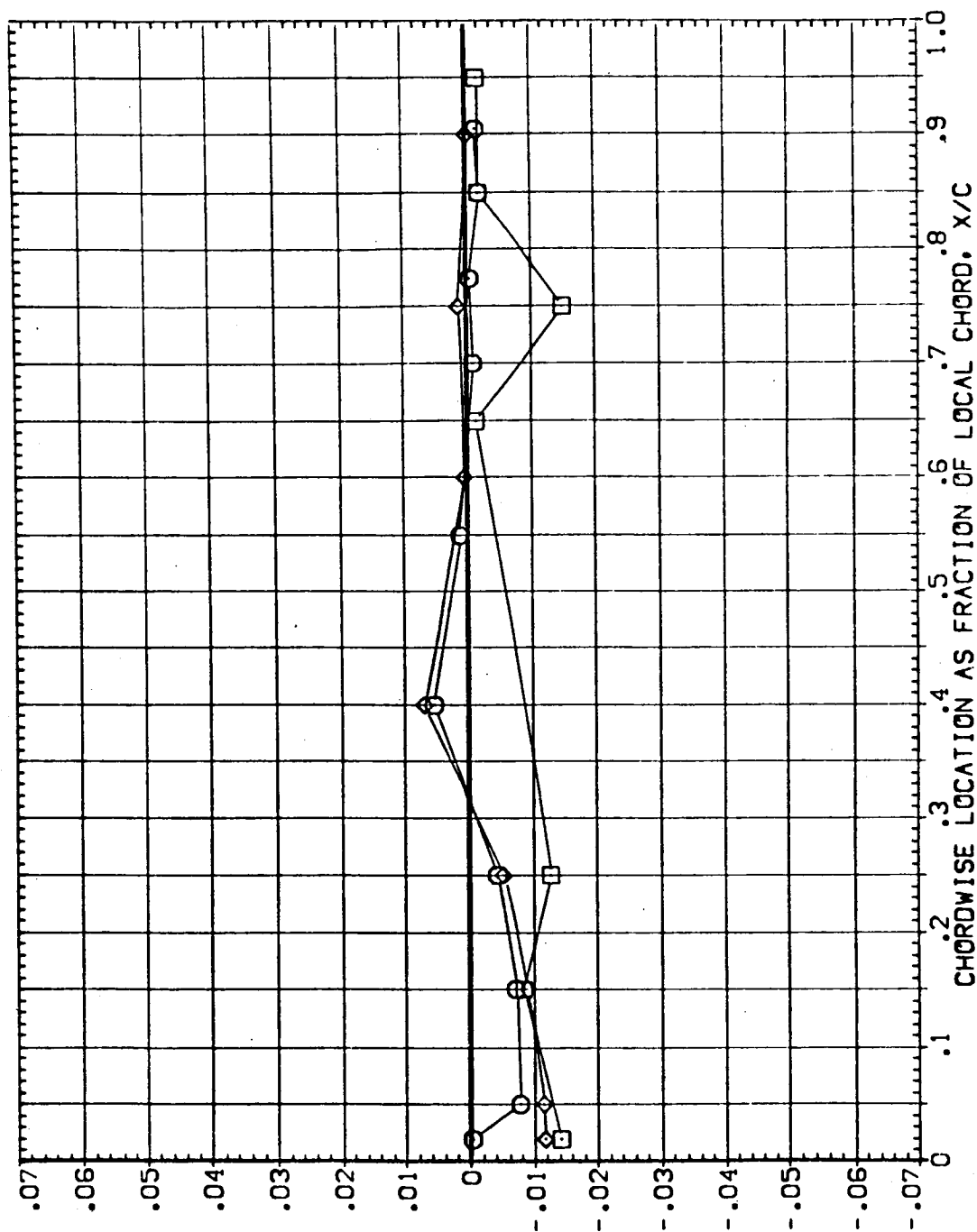


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(EUW16)

SYMBOL	2N/8	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	4.000
◇	.299	.000	1.000	RUDER	.000	MACH	1.400
□	.364			GIMBAL	1.000		
△	.427						
▽	.534						

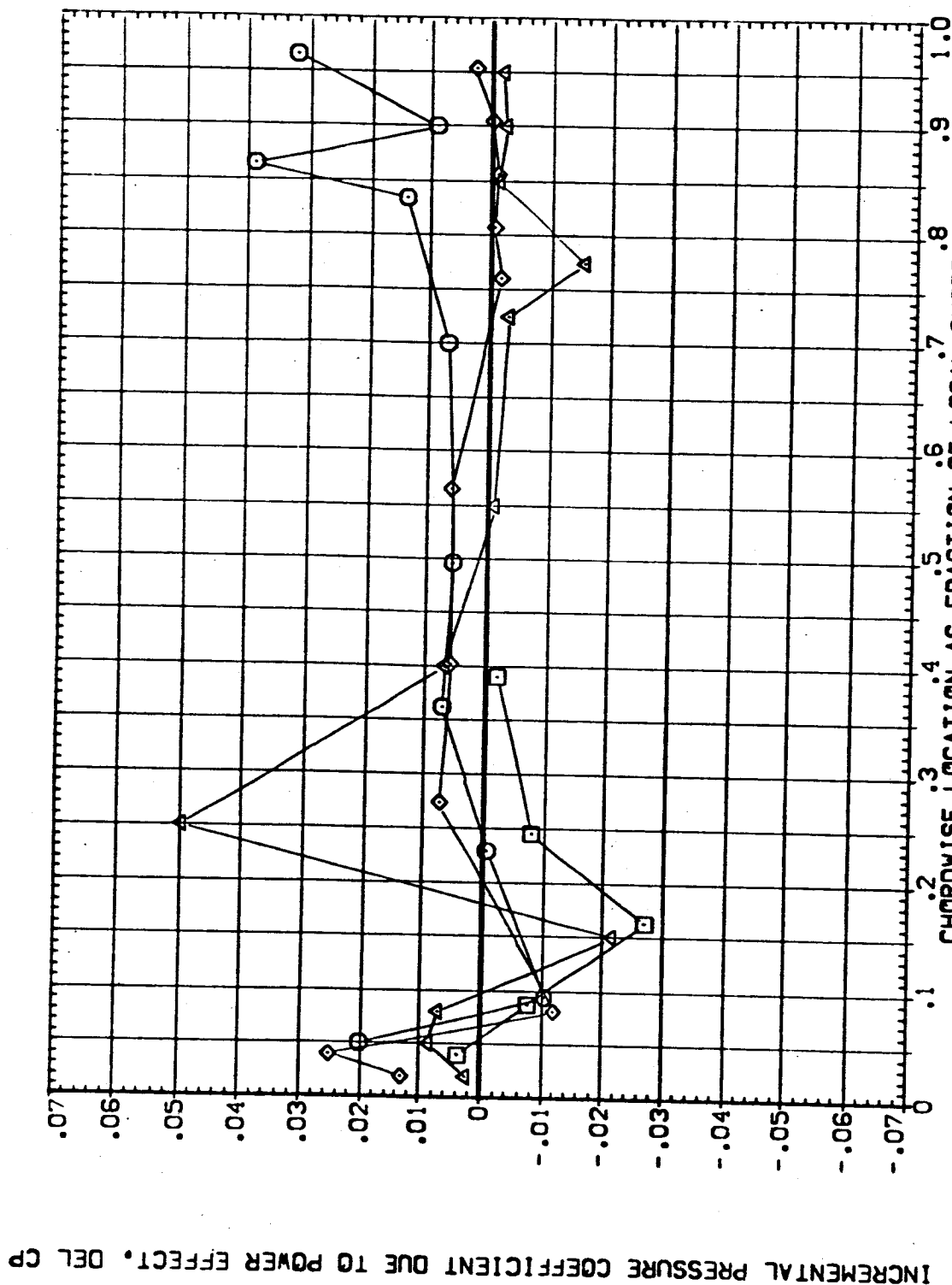


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

SYMBOL	ZY/B	BETA	ALPHA	PARAMETRIC VALUES
○	.641	.000	4.000	ELV-18 8.000 ELV-08 4.000
□	.780	.000	1.000	RUDER .000 MACH 1.400
◇	.687	.000	1.000	GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

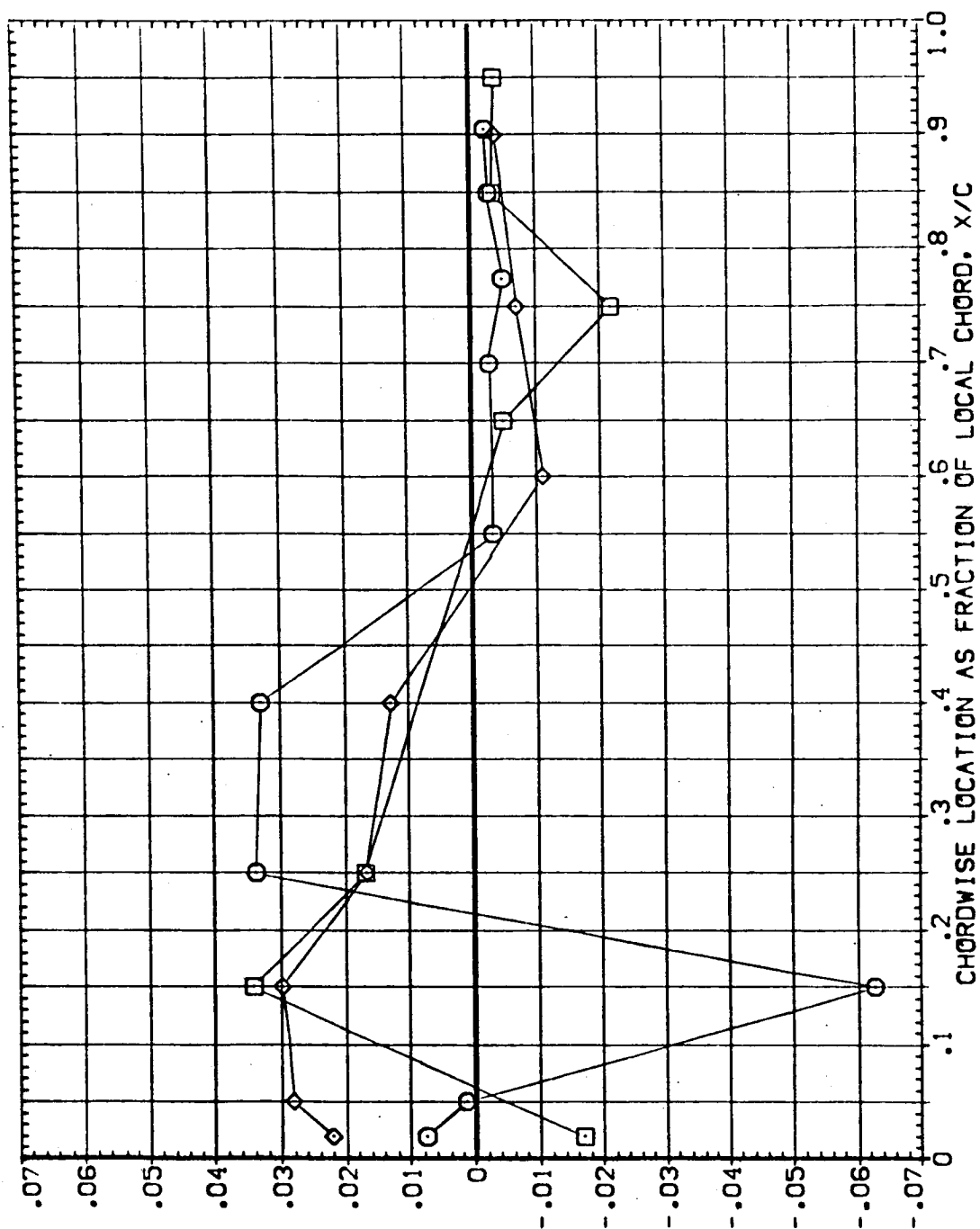


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW16)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-IB	ELV-OB	MACH	
□	.299	-4.000	.000	RUDER	.000	1.000	4.000
◇	.427			GIMBAL	1.000		1.400
△	.534						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

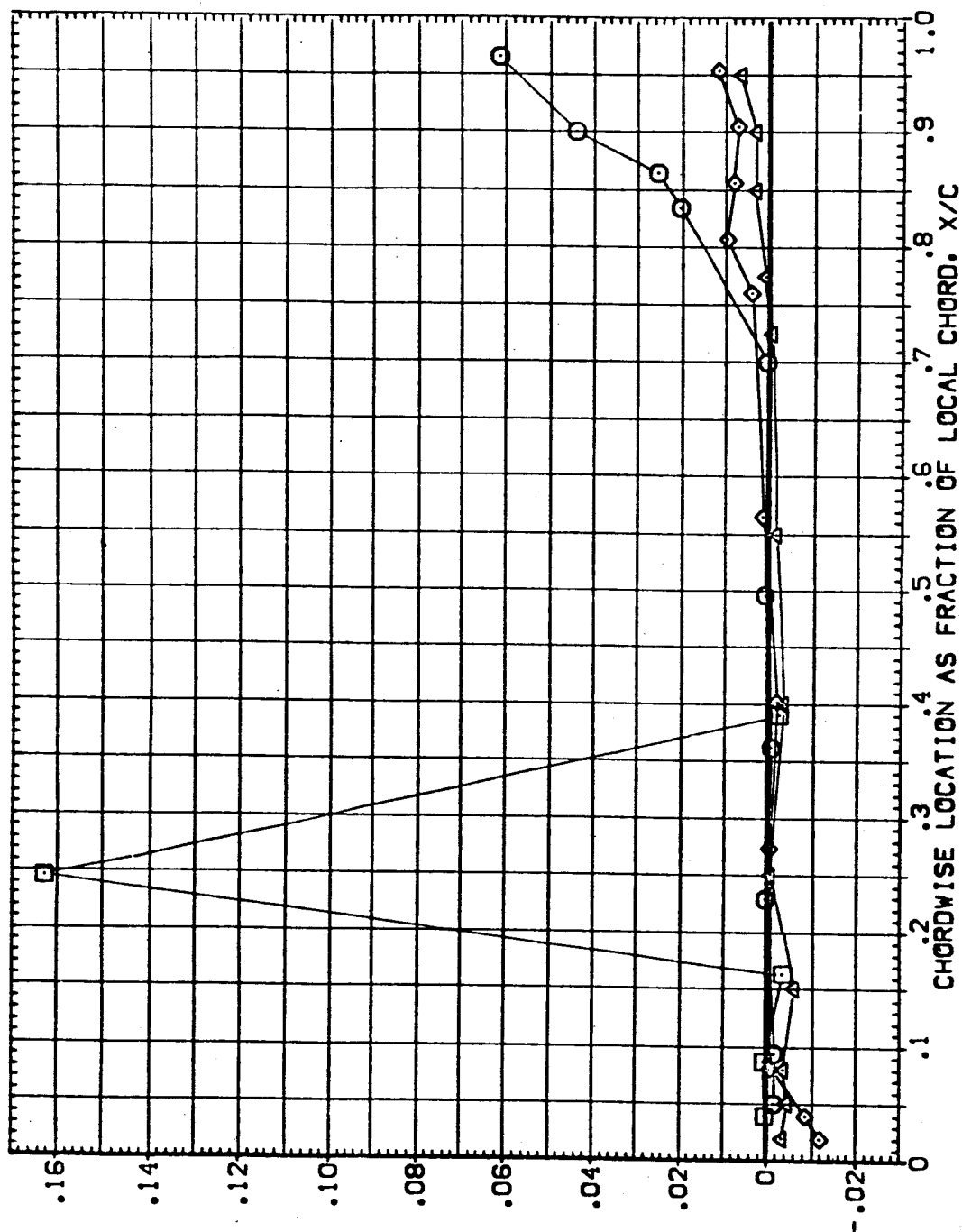


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 DIS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW16)

SYMBOL	2Y/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.641	-4.000	.000	RUDDER	.000	MACH	1.400
□	.780			GIMBAL	1.000		
◇	.887						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

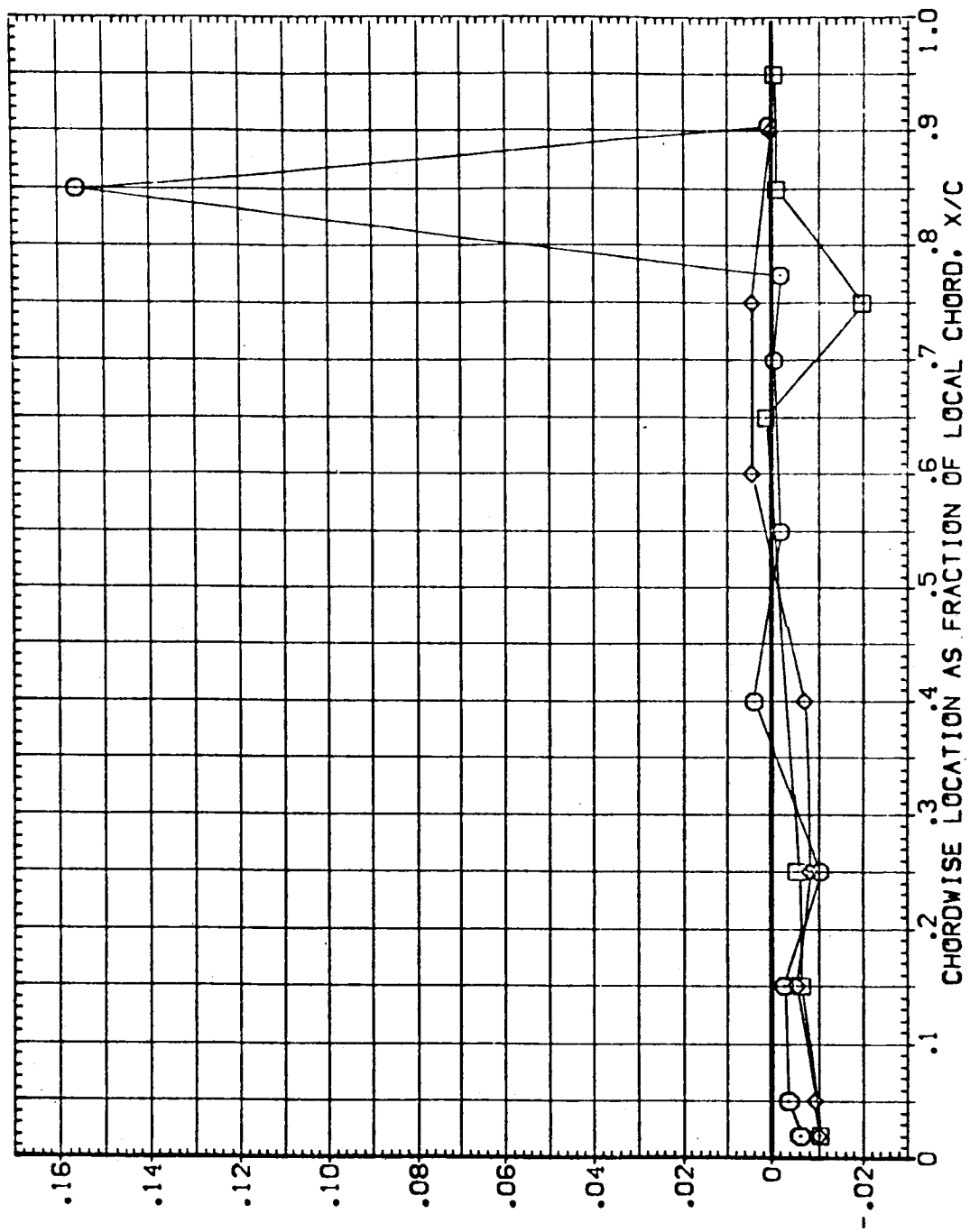


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF LWR WING(FEUW16)

SYMBOL	2Y/B		BETA		ALPHA		PARAMETRIC VALUES			
	0.299	0.364	0.427	0.534	1.000	1.000	ELV-18	ELV-08	MACH	1.400
◇							RUDER	.000		
□							GIMBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

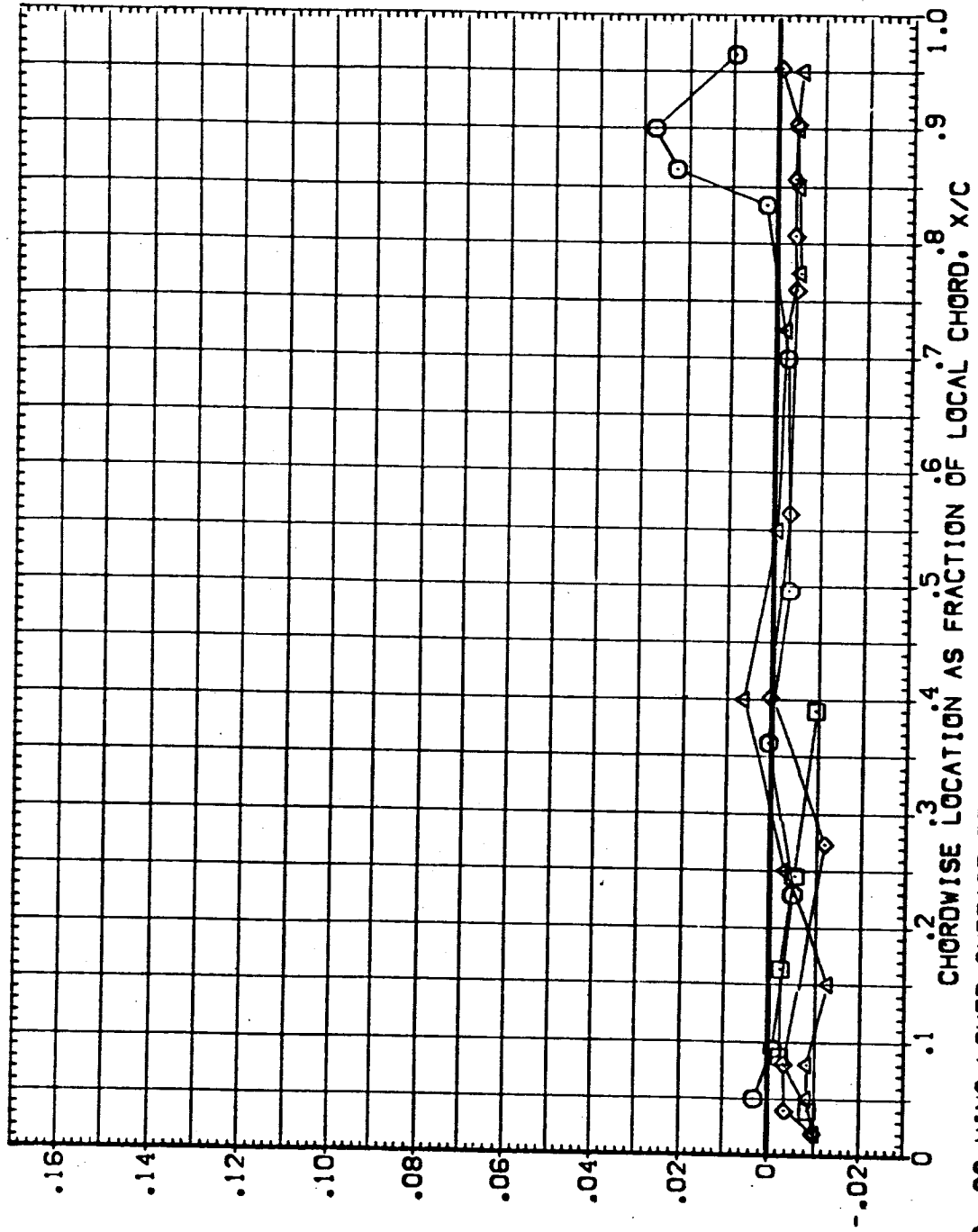


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11:-0141A19 OTS+SIRUT SRB-NOM MPS-OFF LWR WING(FEUW16)

SYMBOL	2N/B	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.641	4.000	.000	RUDER	.000	MACH	1.400
□	.760			GIMBAL	1.000		
◇	.897						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

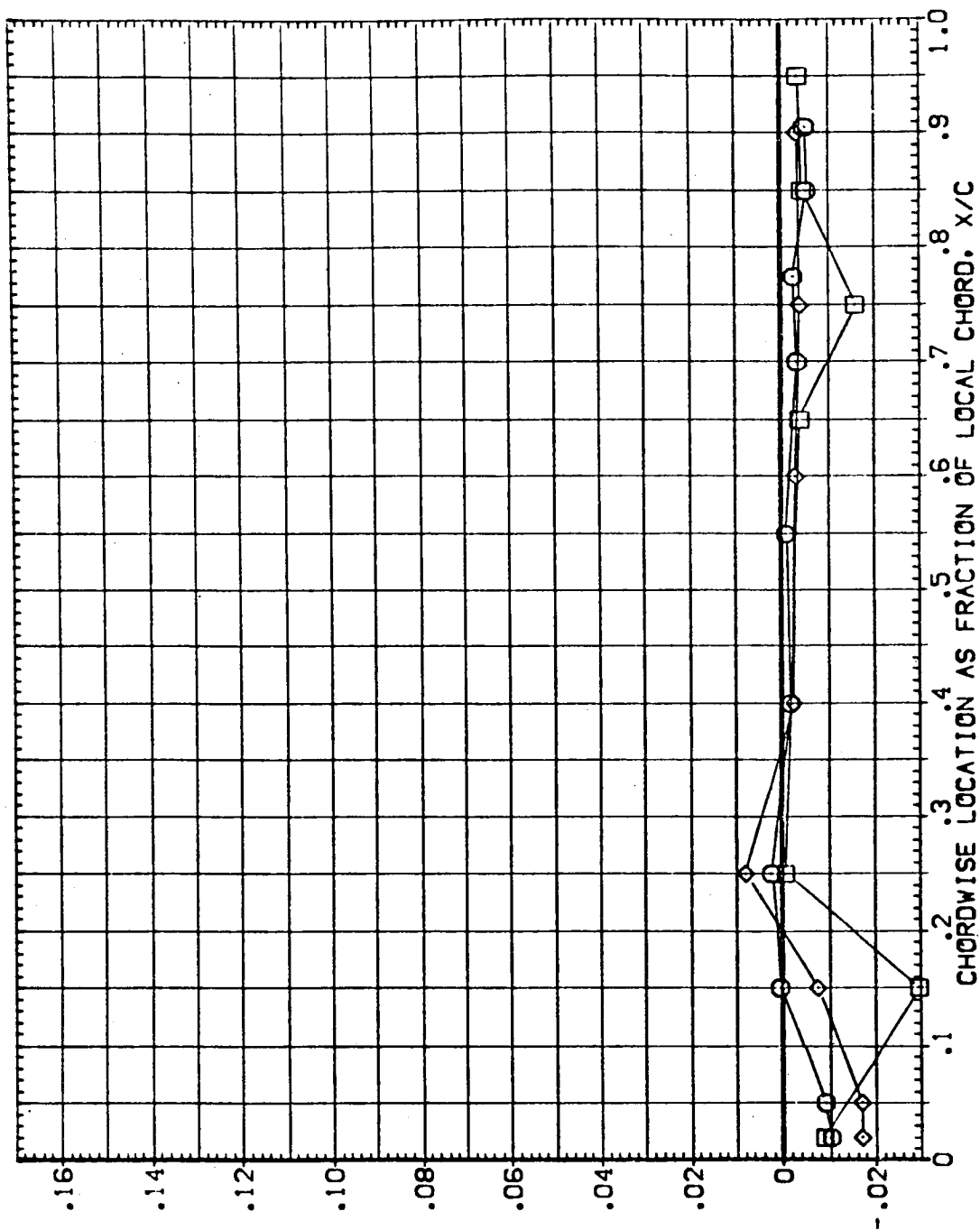


FIG. 98 WING LOWER SURFACE DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (BEUV01)

SYMBOL Z/BV BETA ALPHA

○ .158 .000 -4.000

□ .316 .000 -4.000

◇ .500 .000 -4.000

△ .840 .000 -4.000

▽ .925 .000 -4.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-09 4.000

RUDER .000 MACH .900

GIMBAL 1.000

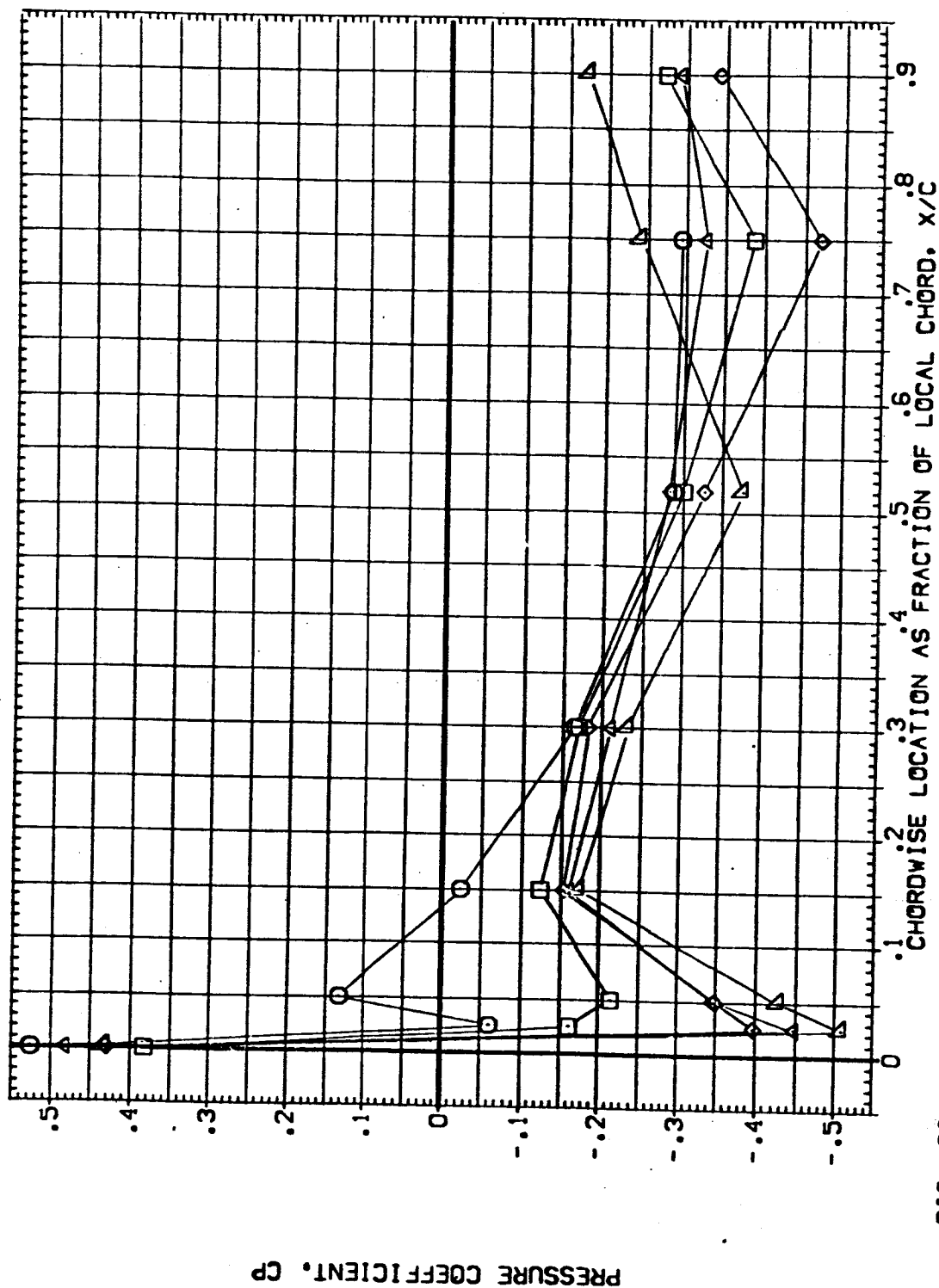


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (BEUV01)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.158	.000	.000	RUDDER	8.000	4.000	
□	.316	.000	.000	GIMBAL	.000	.900	
◇	.600	.000	.000				
△	.840	.000	.000				
▽	.925	.000	.000				

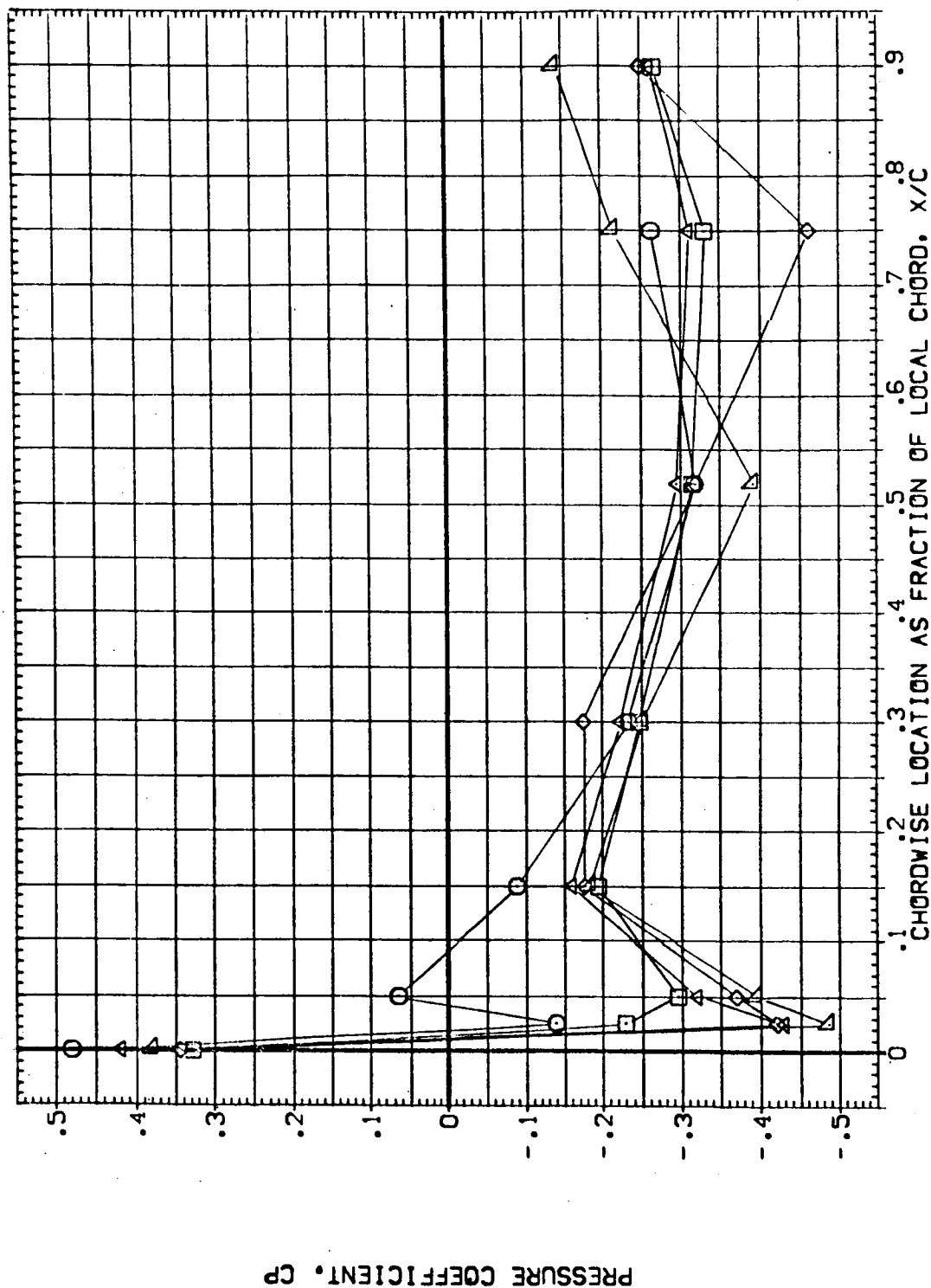


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (BEUV01)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	ELV-08
○	.158	.000	4.000	RUDER	.000	MACH	.900
□	.316			GIMBAL	1.000		
◇	.600						
△	.840						
▽	.925						

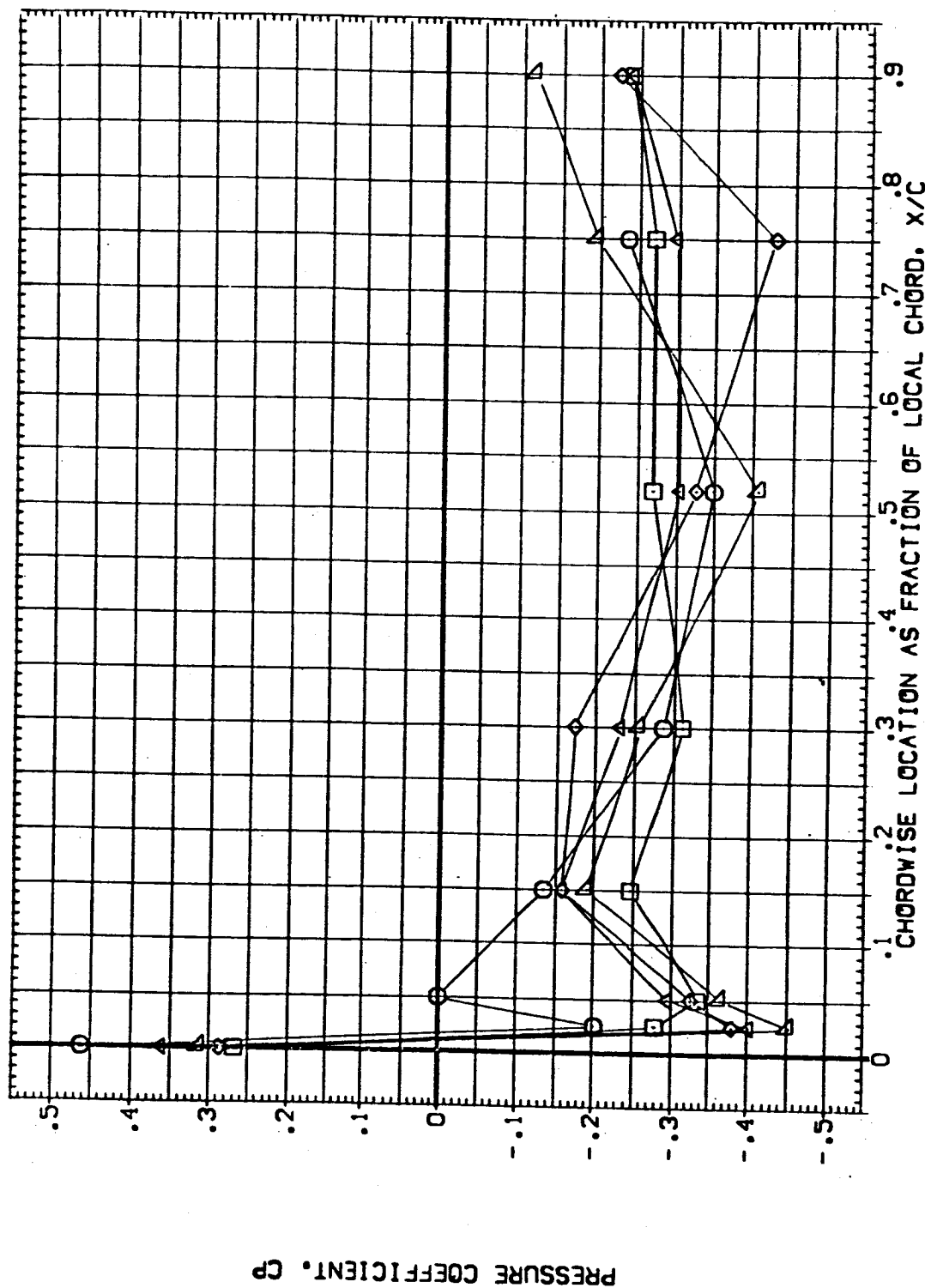


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL(CEUVO1)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-09	ELV-00	MACH
○	.158	-4.000	.000	RUDDER	.000	1.000	1.000
□	.316			GIMBAL			
◇	.600						
△	.840						
▽	.925						

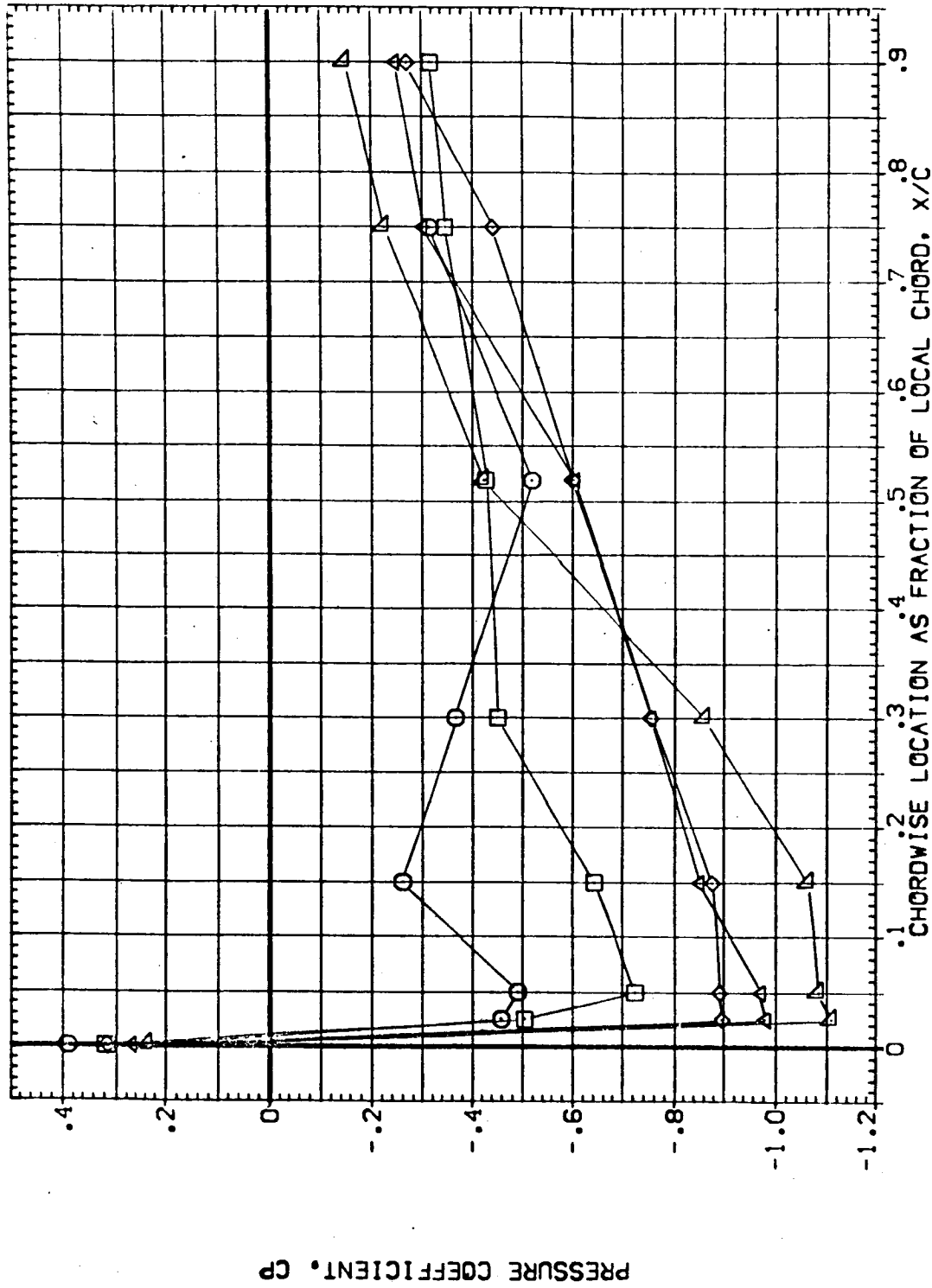


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (CEUV01)

SYMBOL	Z/BV	BETA	ALPHA	ELV-18 RUDDER GIMBAL	PARAMETRIC VALUES 8.000 1.000 4.000 8.000 1.000 4.000
○	.156	4.000	.000		
□	.316				
◇	.600				
△	.840				
▽	.925				

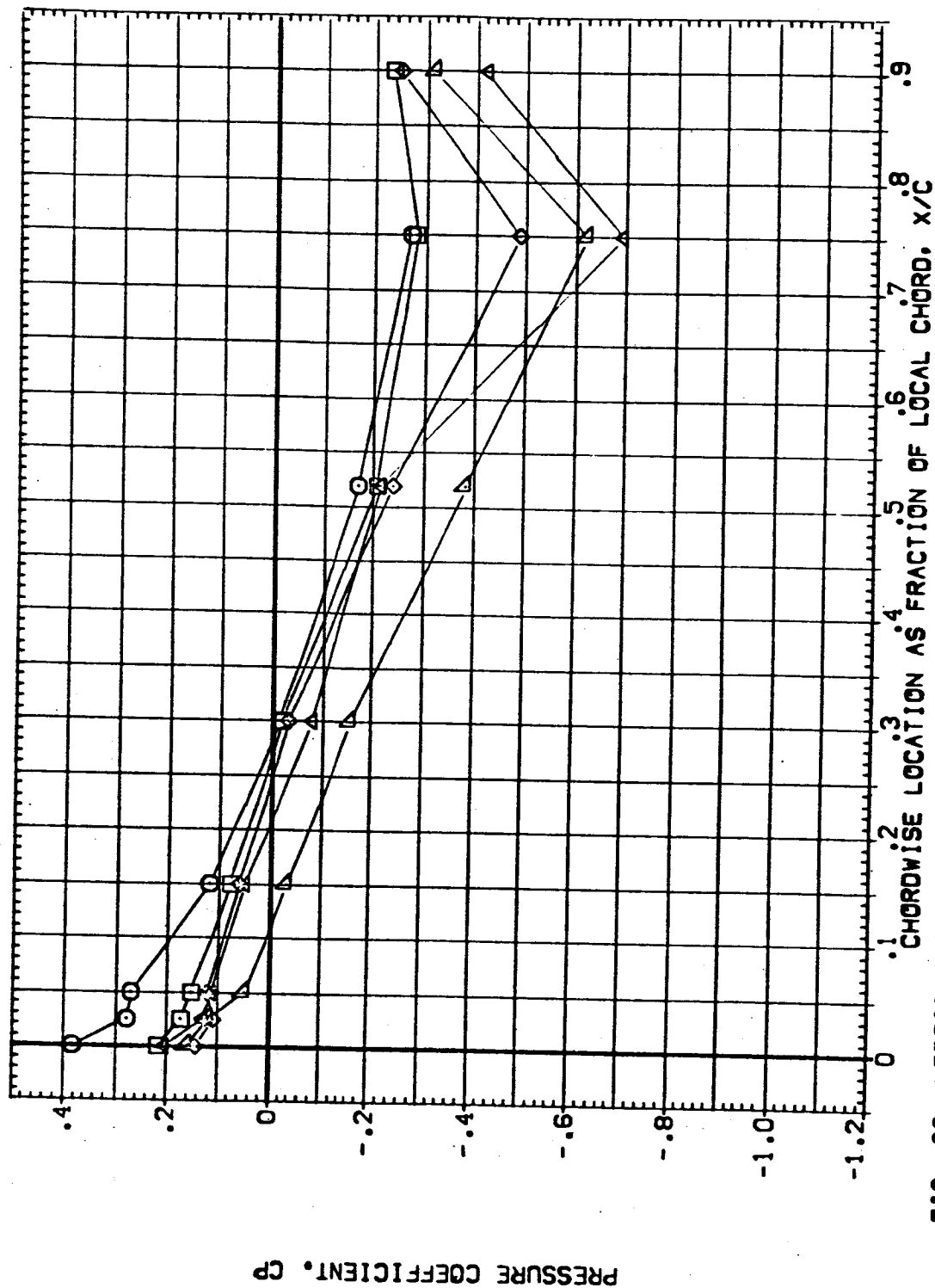


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (BEUV02)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-00	MACH
○	.158	.000	-4.000	RUDDER	.000	1.000	4.000
□	.316	.000	-4.000	G1PBAL	.000	1.000	1.100
◇	.600	.000	-4.000				
▽	.840	.000	-4.000				
△	.925	.000	-4.000				

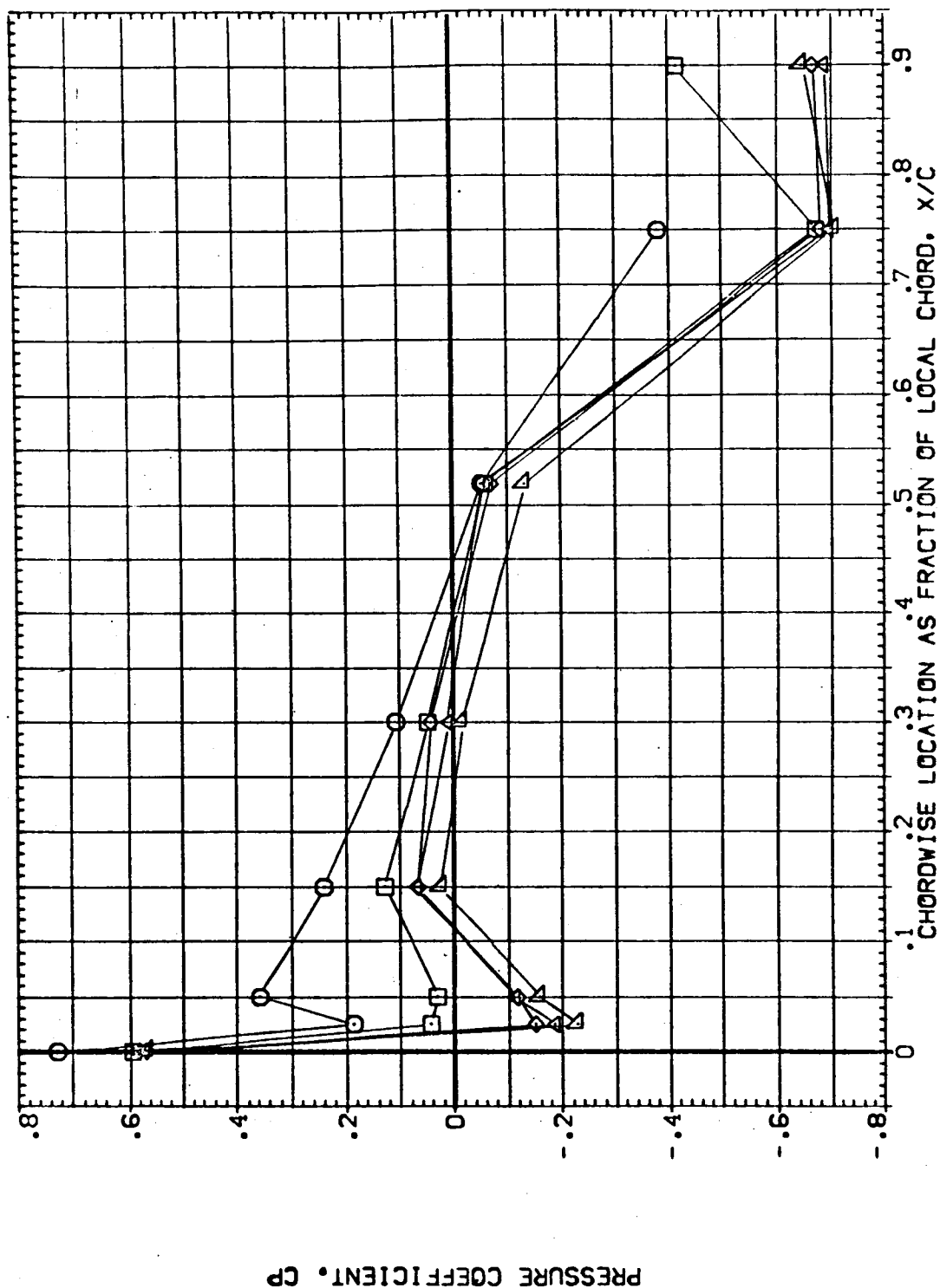


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (BEUV02)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.158	.000	.000	RUDER	.000	MACH	1.100
□	.316			GIMBAL	1.000		
◇	.600						
△	.840						
▽	.975						

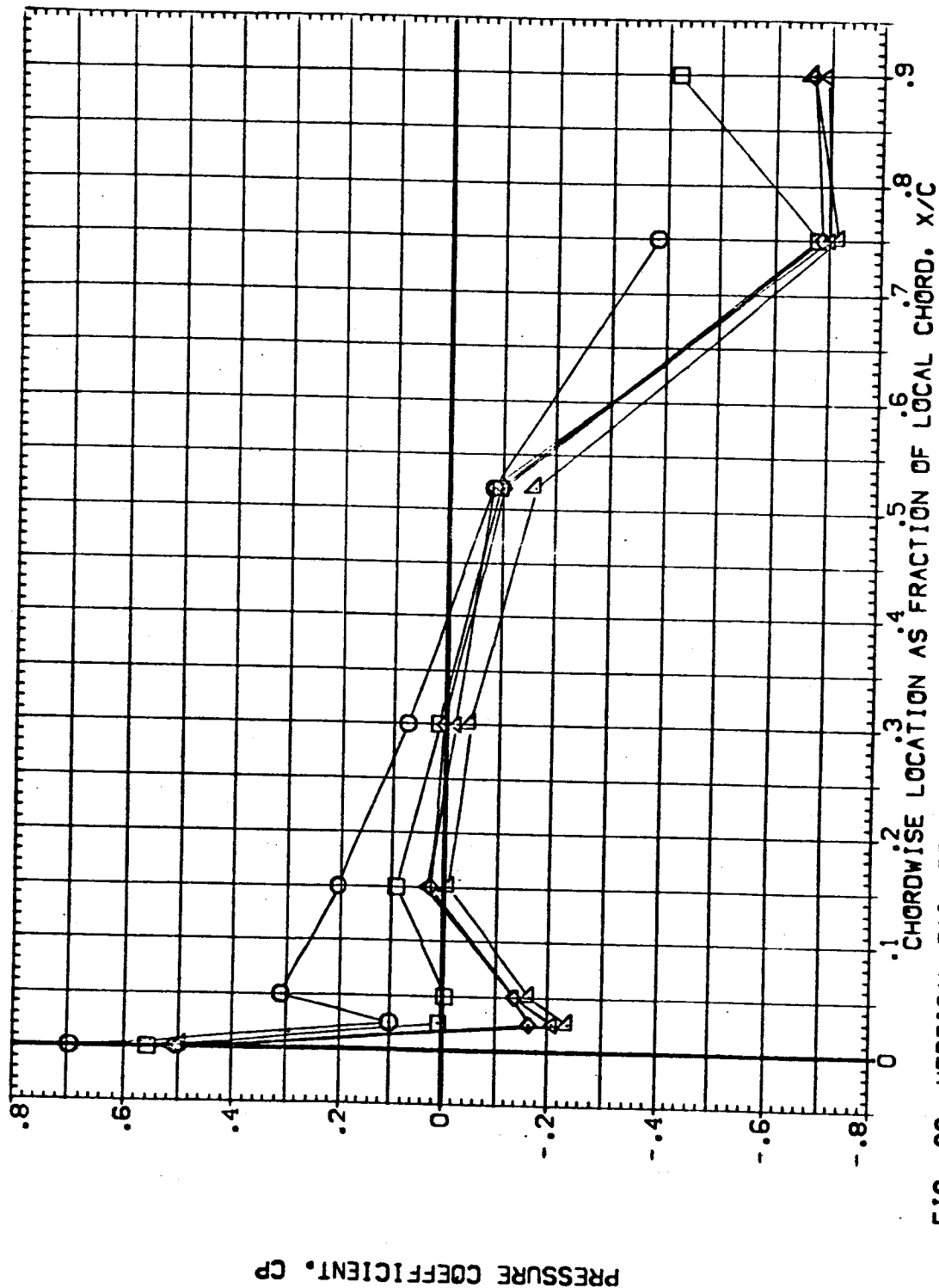


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	Z/BV	BETA	ALPHA	ELV-18	ELV-08	PARAMETRIC VALUES
○	.158	.000	4.000	8.000	8.000	4.000
□	.316	.000	4.000	RUDDER	.000	MACH
◇	.600	.000	4.000	GIMBAL	1.000	1.000
△	.840	.000	4.000			
▽	.925	.000	4.000			

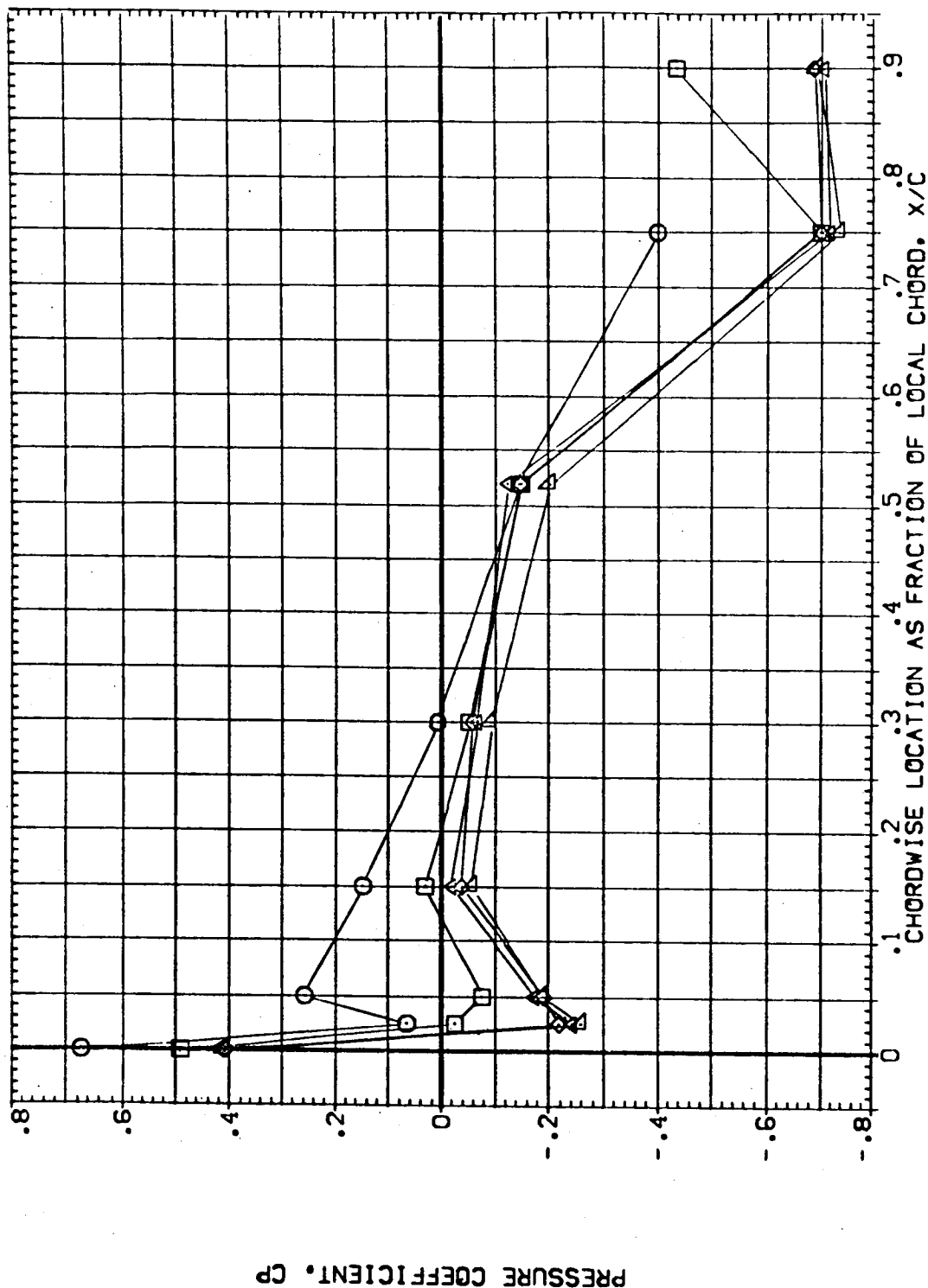


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (CEUV02)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-1B	8.000	ELV-08	4.000
○	.159	-4.000	.000	RUDER	.000	MACH	1.100
□	.316			GINBAL	1.000		
◇	.600						
△	.840						
▽	.925						

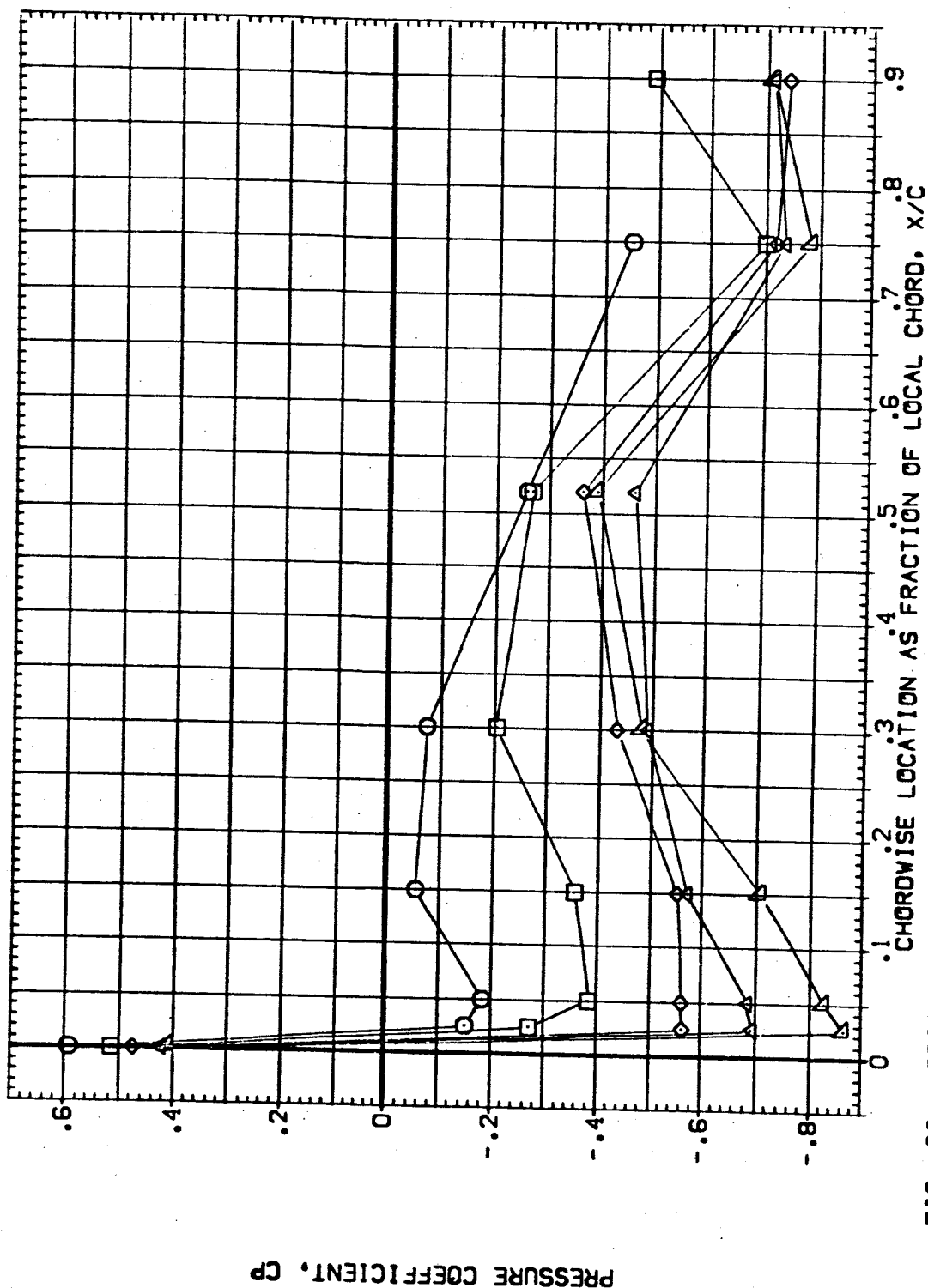


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL Z/BV BETA ALPHA
 ○ .158 4.000 .000
 □ .316
 ◇ .600
 △ .840
 ▽ .925

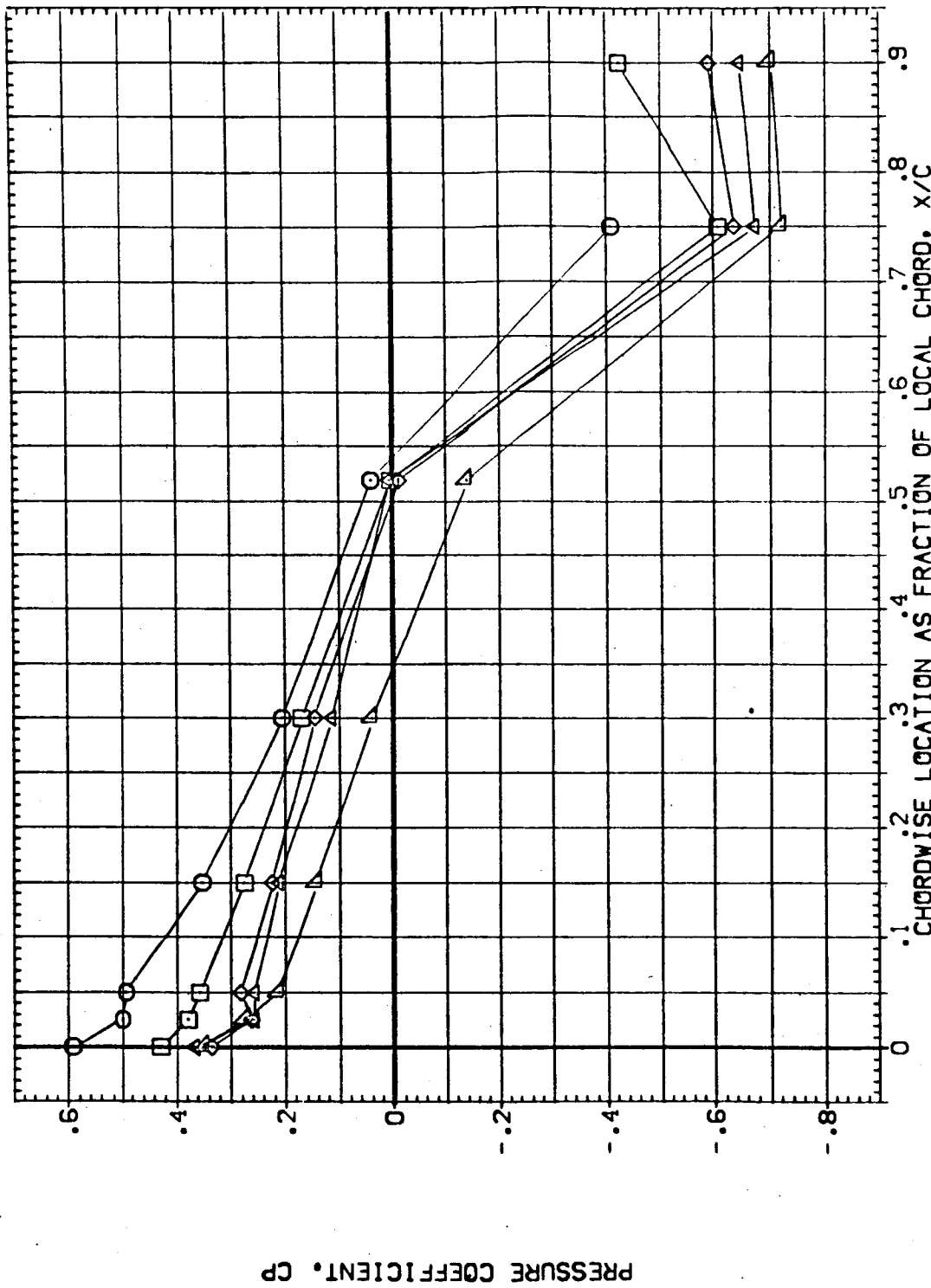


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (BEUV03)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-09	MACH	
▽	.158	.000	-4.000	RUDER	.000	1.000	4.000
◇	.316			GIMBAL			1.250
□	.600						
△	.840						
▽	.925						

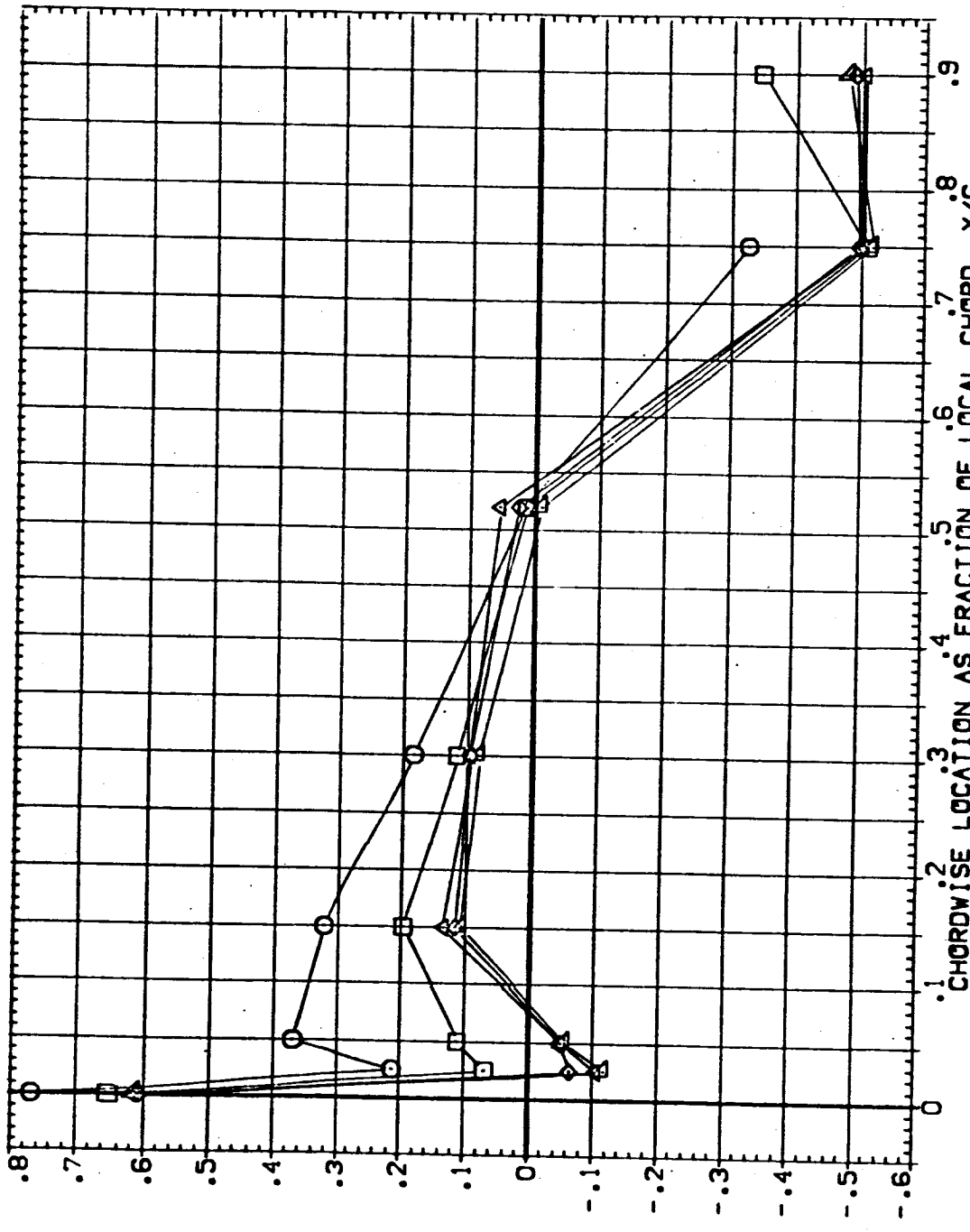


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SR8-OFF MPS-OFF VERTICAL (BEUV03)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.158	.000	.000	RUDDER	.000	MACH	1.250
◇	.316			GIMBAL	1.000		
□	.600						
△	.840						
▽	.925						

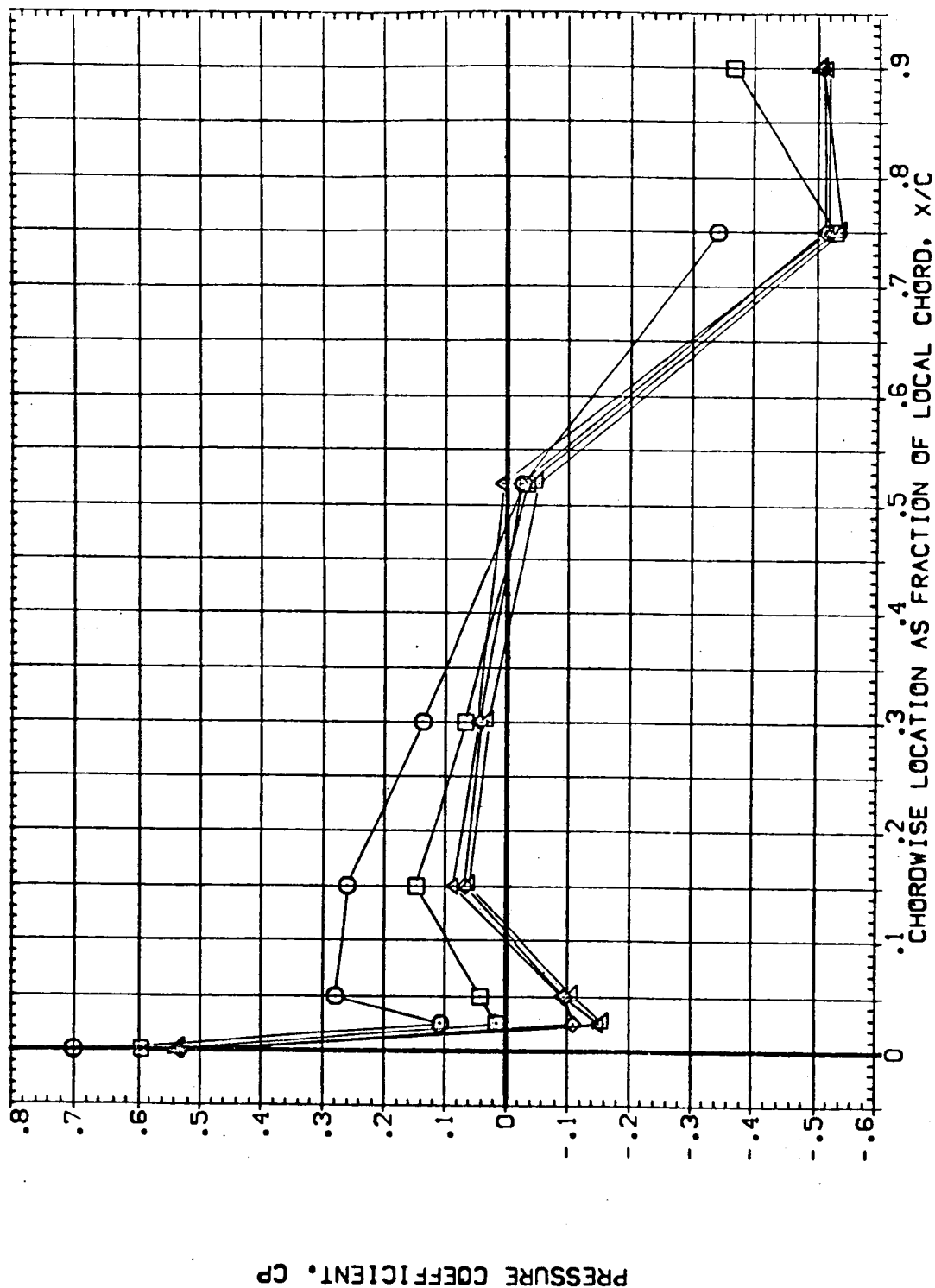


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (BEUV03)

SYMBOL Z/BV BETA ALPHA

○	.158	.000	4.000
□	.316	.000	4.000
◇	.600	.000	4.000
△	.840	.000	4.000
▽	.975	.000	4.000

PARAMETRIC VALUES

ELV-18	8.000	ELV-08	4.000
RUDER	.000	MACH	1.250
GIMBAL	1.000		

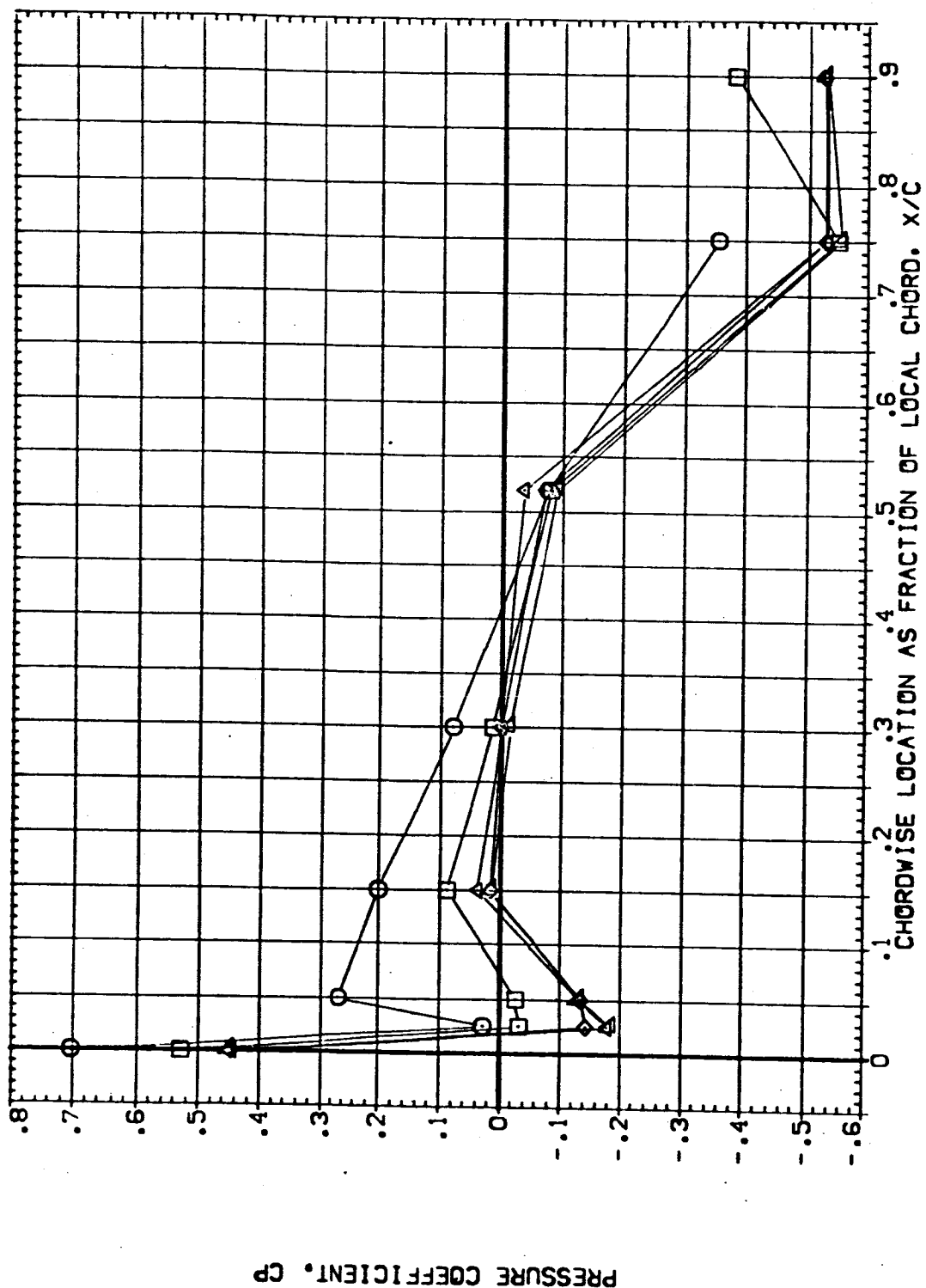


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-1B	ELV-08	MACH	
○	.158	-4.000	.000	RUDDER	.000	1.250	4.000
□	.316			GIMBAL	1.000		
◇	.600						
△	.840						
▽	.925						

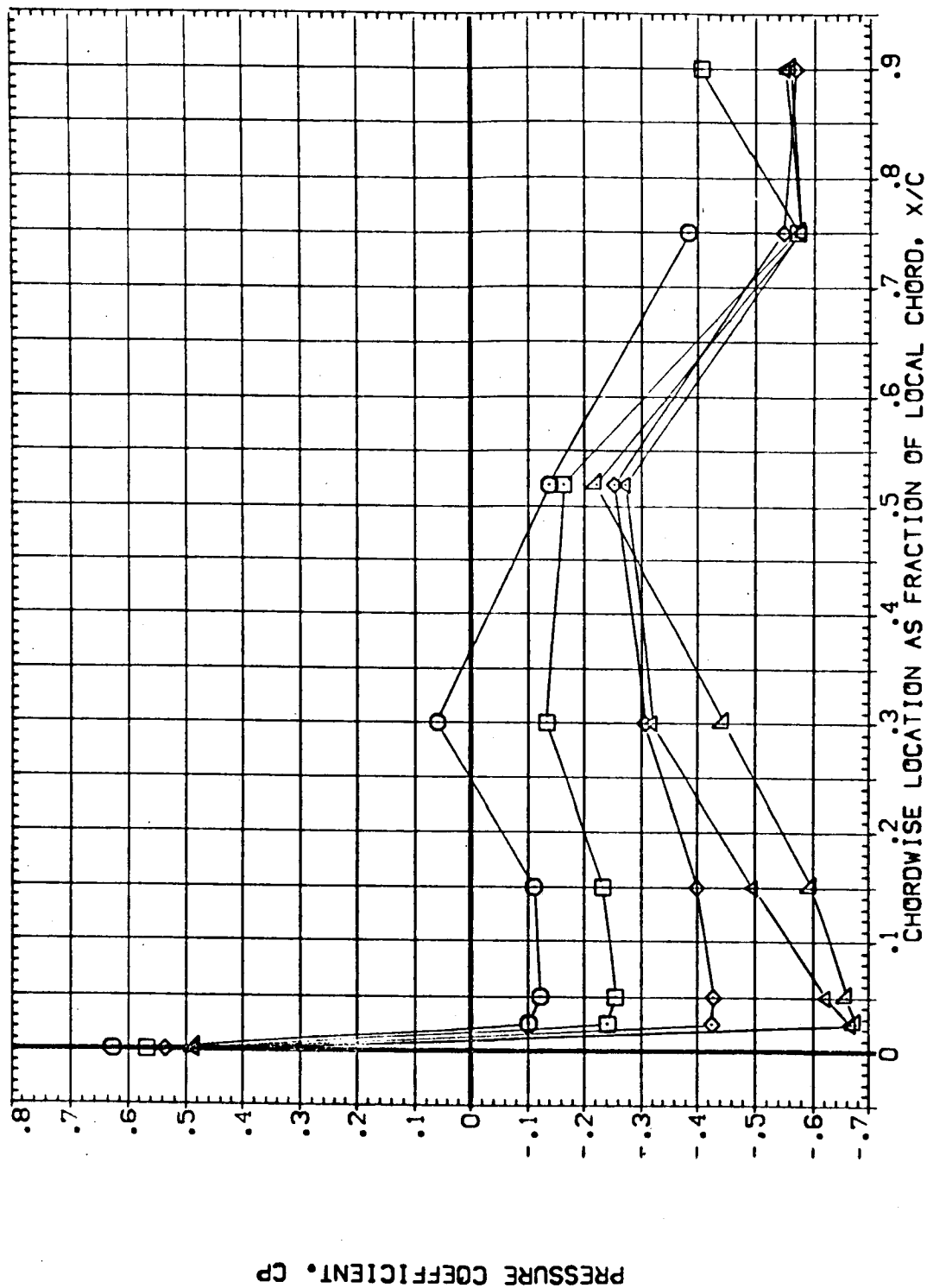


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (CEUV03)

SYMBOL	Z/8V	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-00	MACH
○	.158	4.000	.000	RUDER	.000	1.000	1.250
□	.316			GIMBAL			
◇	.500						
△	.840						
▽	.925						

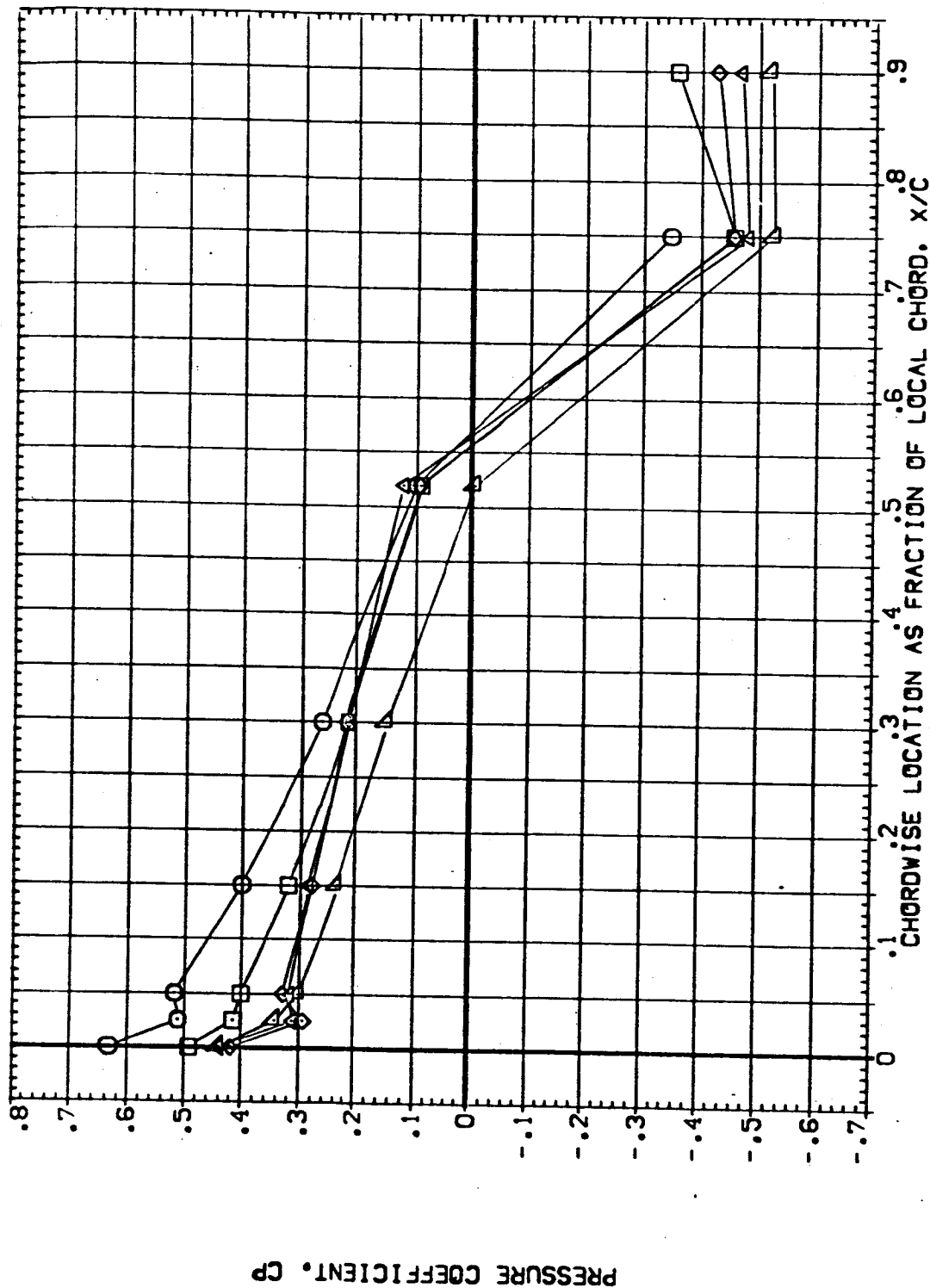


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.158	.000	-4.000		8.000	1.000	4.000
□	.316			RUDDER	.000		1.400
◇	.600			GIMBAL	1.000		
△	.840						
▽	.925						

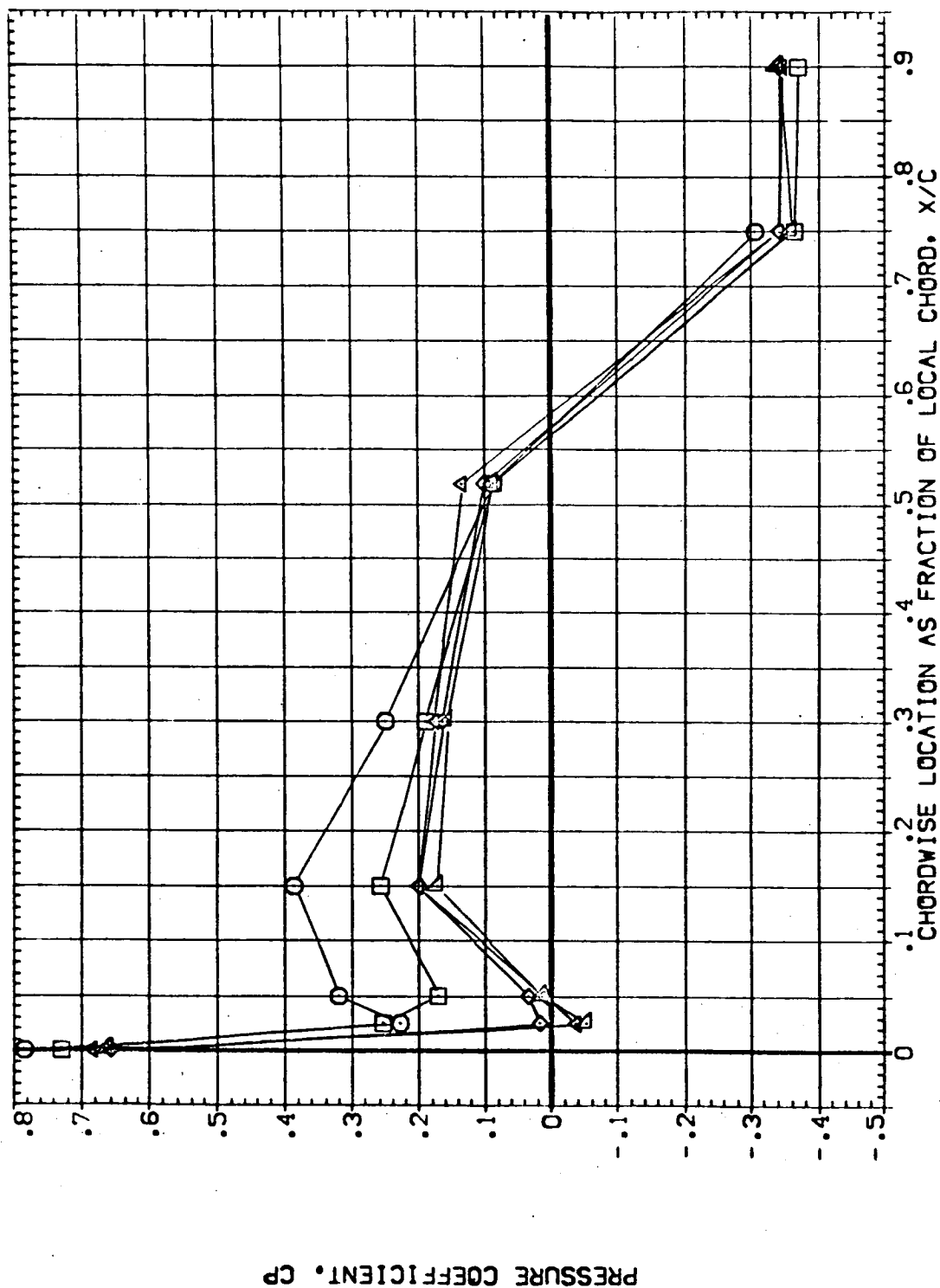


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (BEUV04)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
▽	.158	.000	.000	RUDDER	.000	1.000	1.000
◇	.316			GIMBAL	1.000		
□	.600						
△	.840						
	.925						

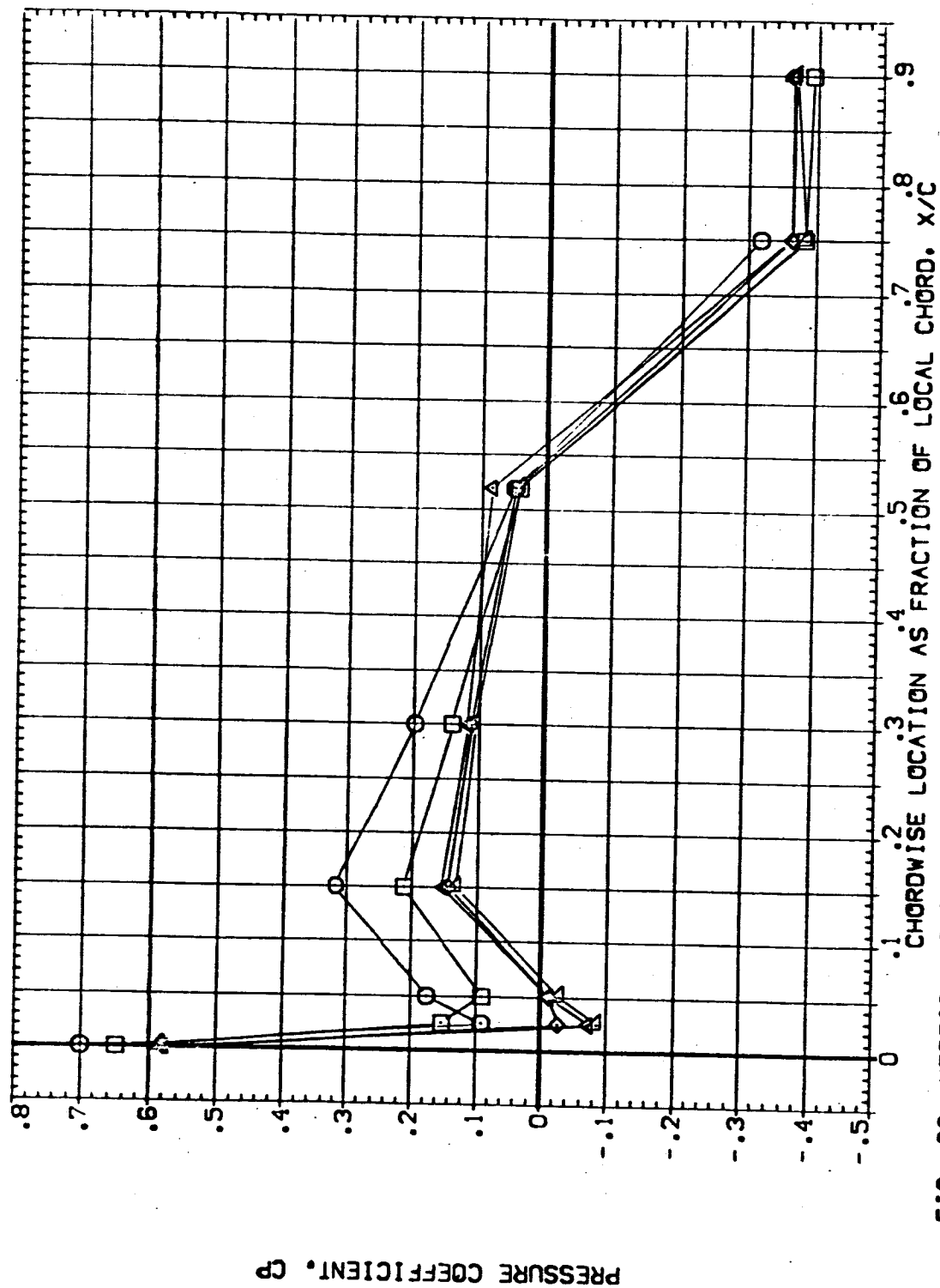


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (BEUV04)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.156	.000	4.000	RUDER	.000	MACH	1.400
□	.316			GINBAL	1.000		
◇	.600						
△	.840						
▽	.975						

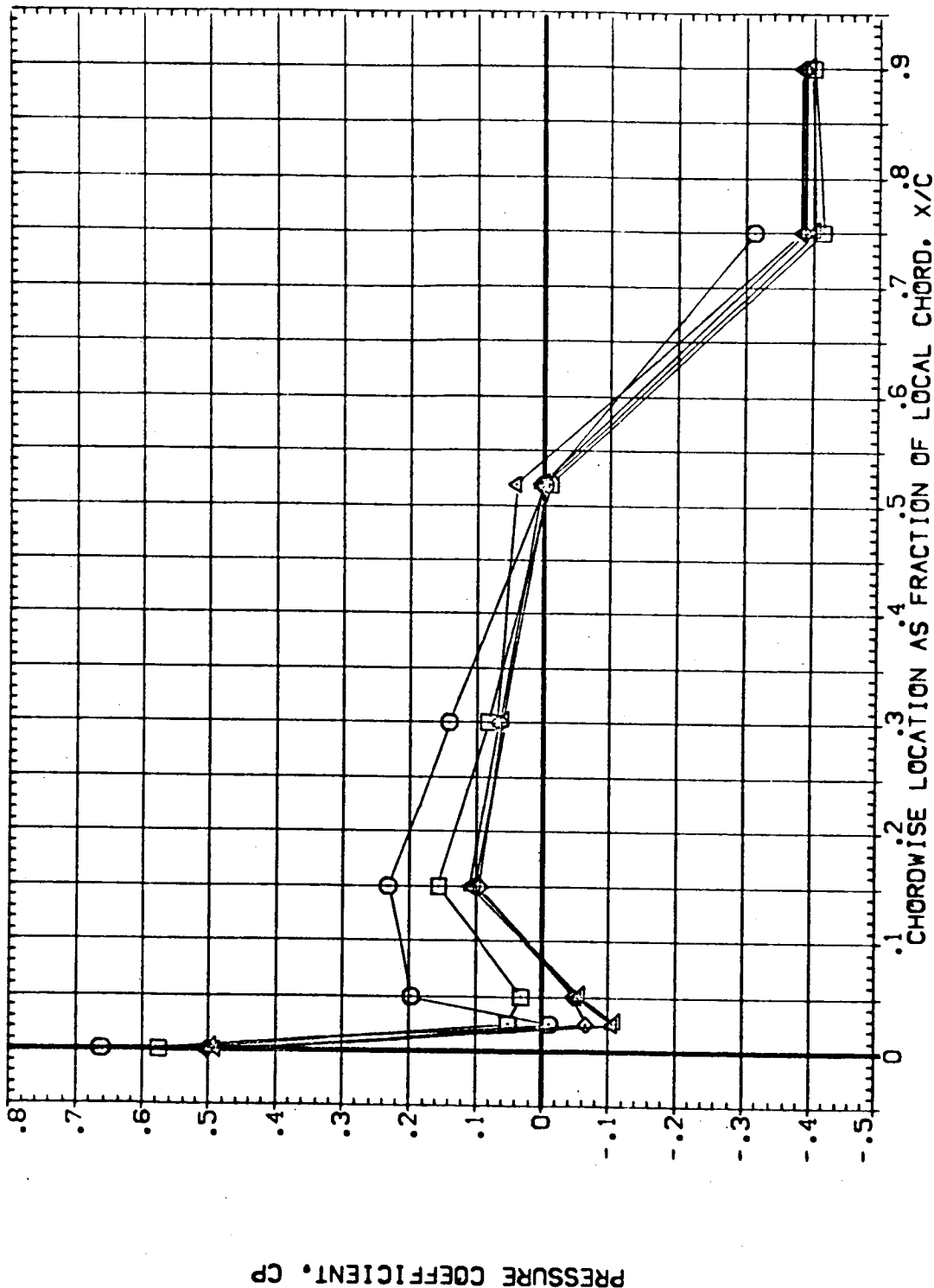


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (CEUV04)

SYMBOL	Z/8V	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.158	-4.000	.000	8.000	.000	1.000	4.000
□	.316			RUDDER			1.400
◇	.600			GIMBAL			
△	.840						
▽	.925						

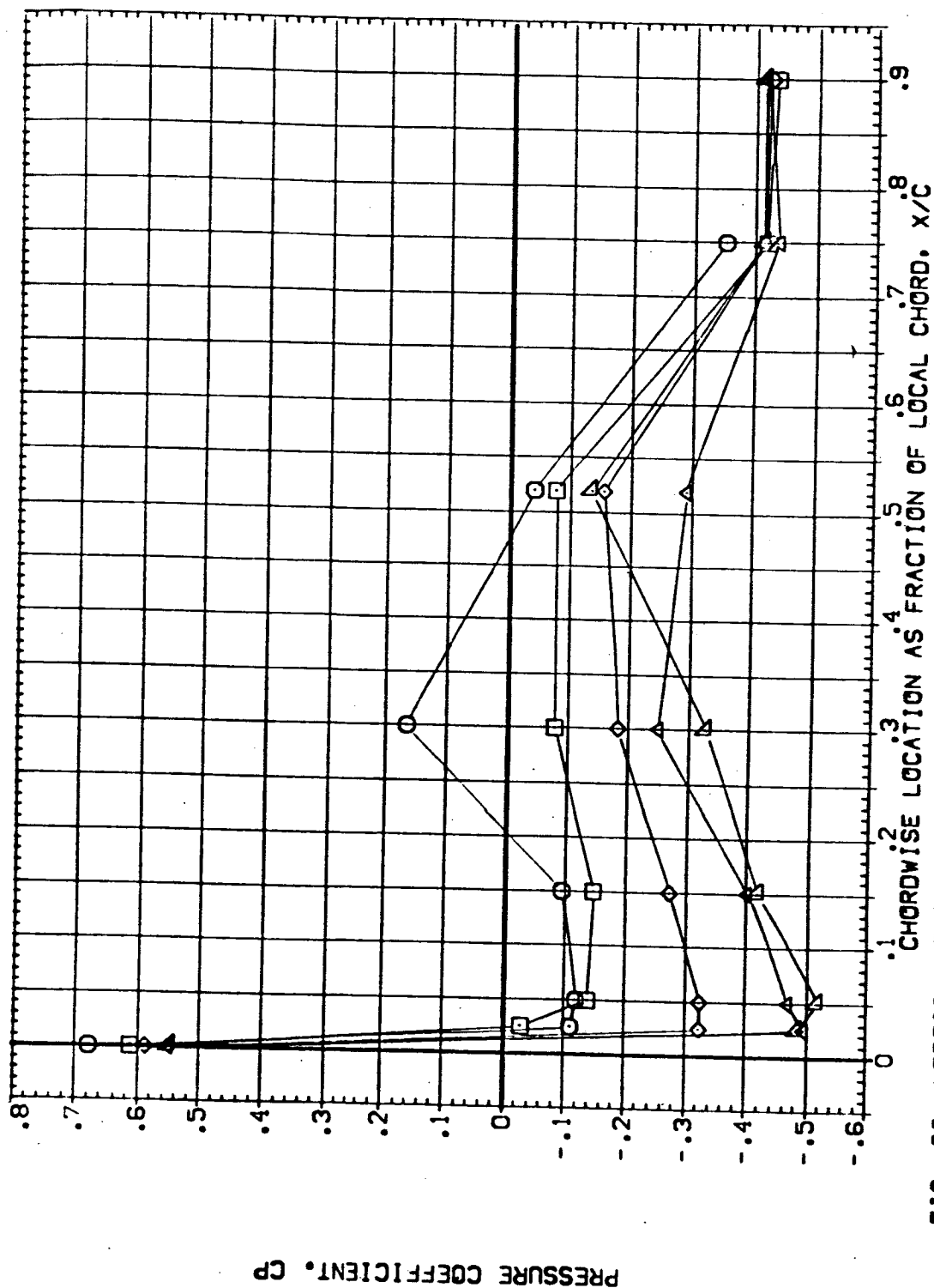


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF VERTICAL (CEUV04)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-1B	ELV-08	ELV-08	ELV-08
○	.158	4.000	.000	RUDER	.000	MACH	4.000
□	.316			GIMBAL	1.000		1.400
◇	.600						
△	.840						
▽	.925						

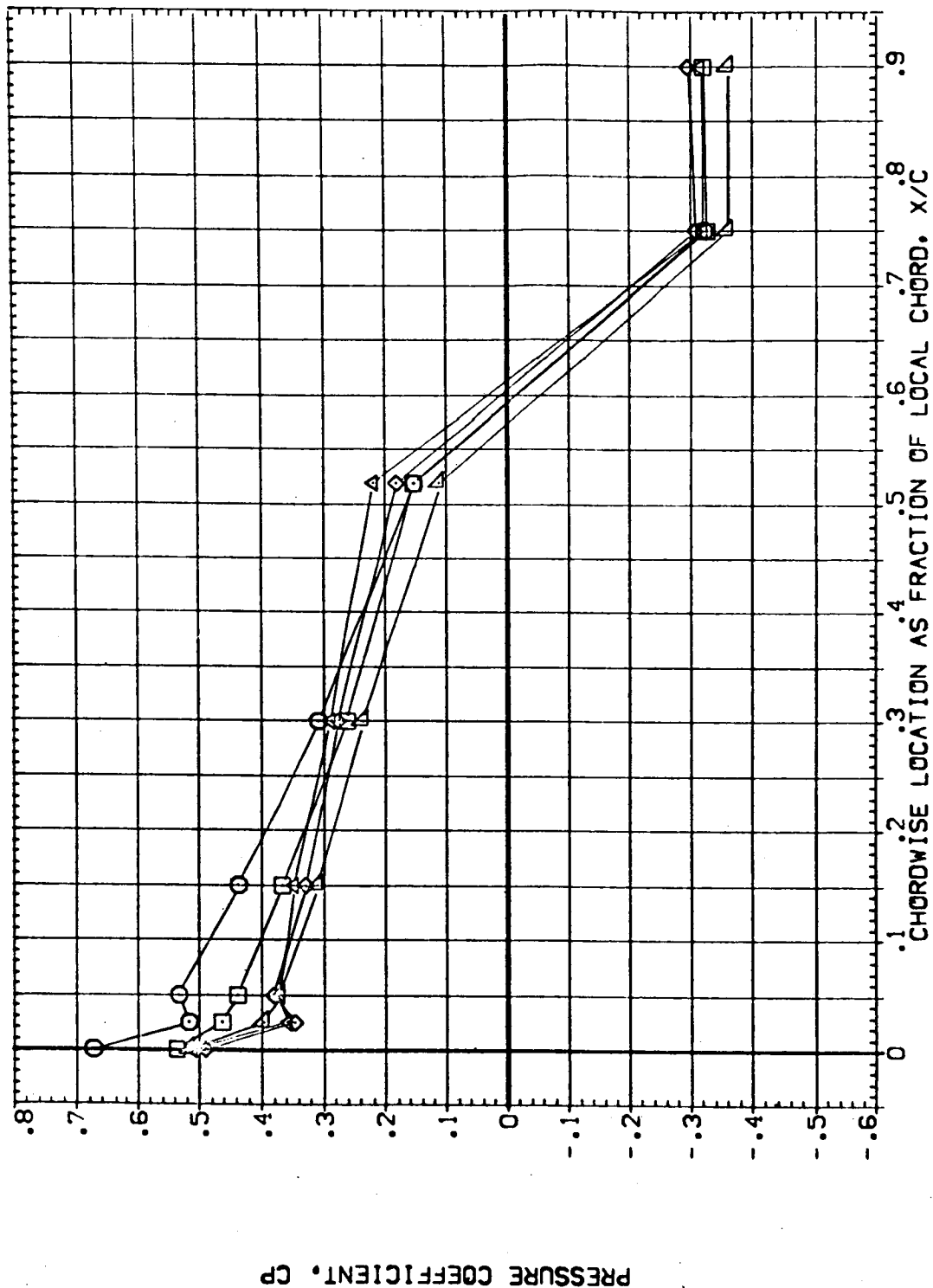


FIG. 99 VERTICAL TAIL PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (EEUV05)

SYMBOL Z/BV BETA ALPHA

7	.158	.000	-1.000
△	.316		
◇	.600		
○	.840		
□	.925		

PARAMETRIC VALUES

ELV-18	9.000	ELV-08	4.000
RUDER	.000	MACH	.900
GIMBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

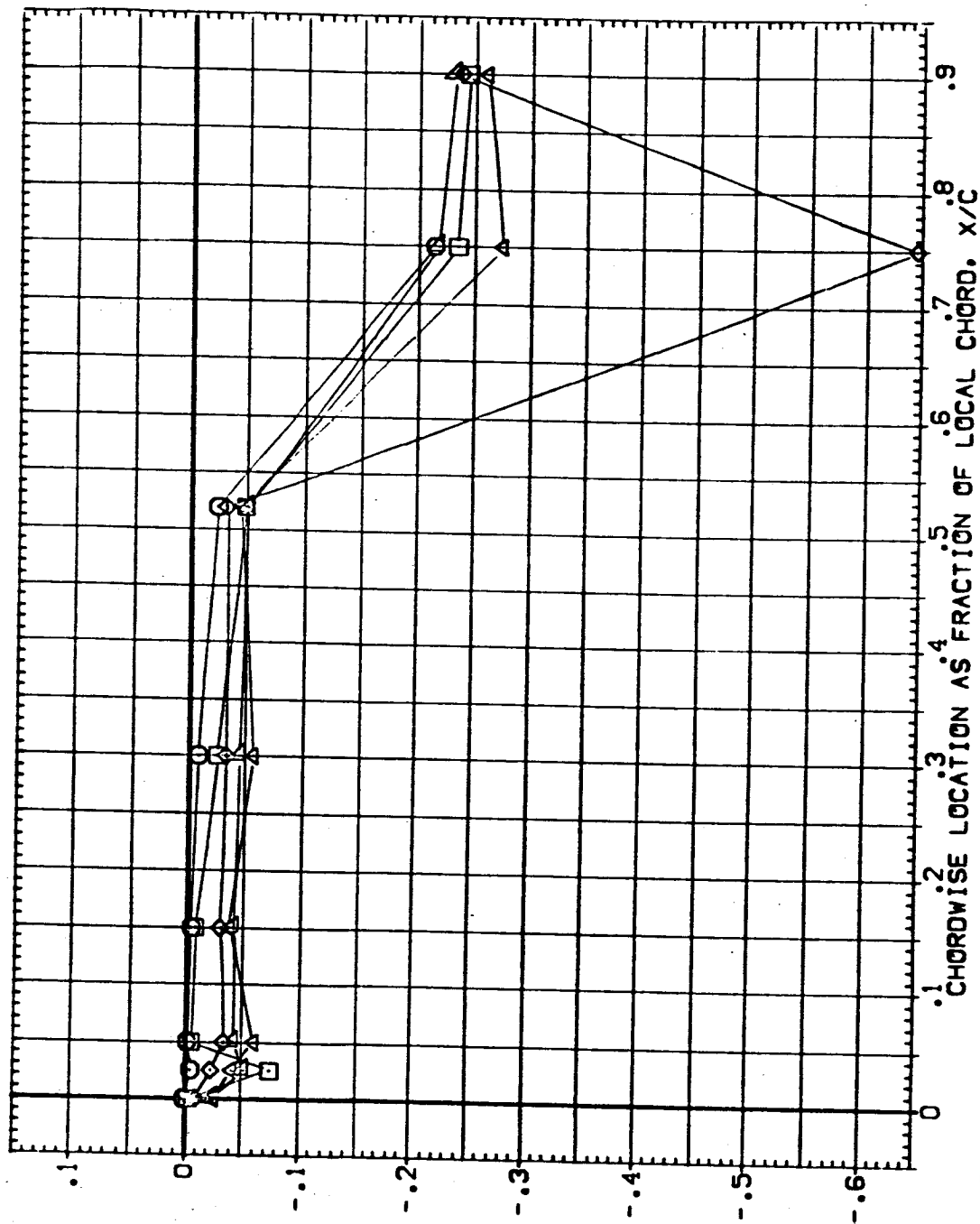


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

SYMBOL $Z/\beta V$ BETA ALPHA

\diamond .158
 \square .316
 \triangle .600
 \circ .840
 \times .925

PARAMETRIC VALUES

ELV-18	ELV-08	ELV-09
8.000	.000	4.000
RUDER	.000	MACH
GIMBAL	1.000	

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

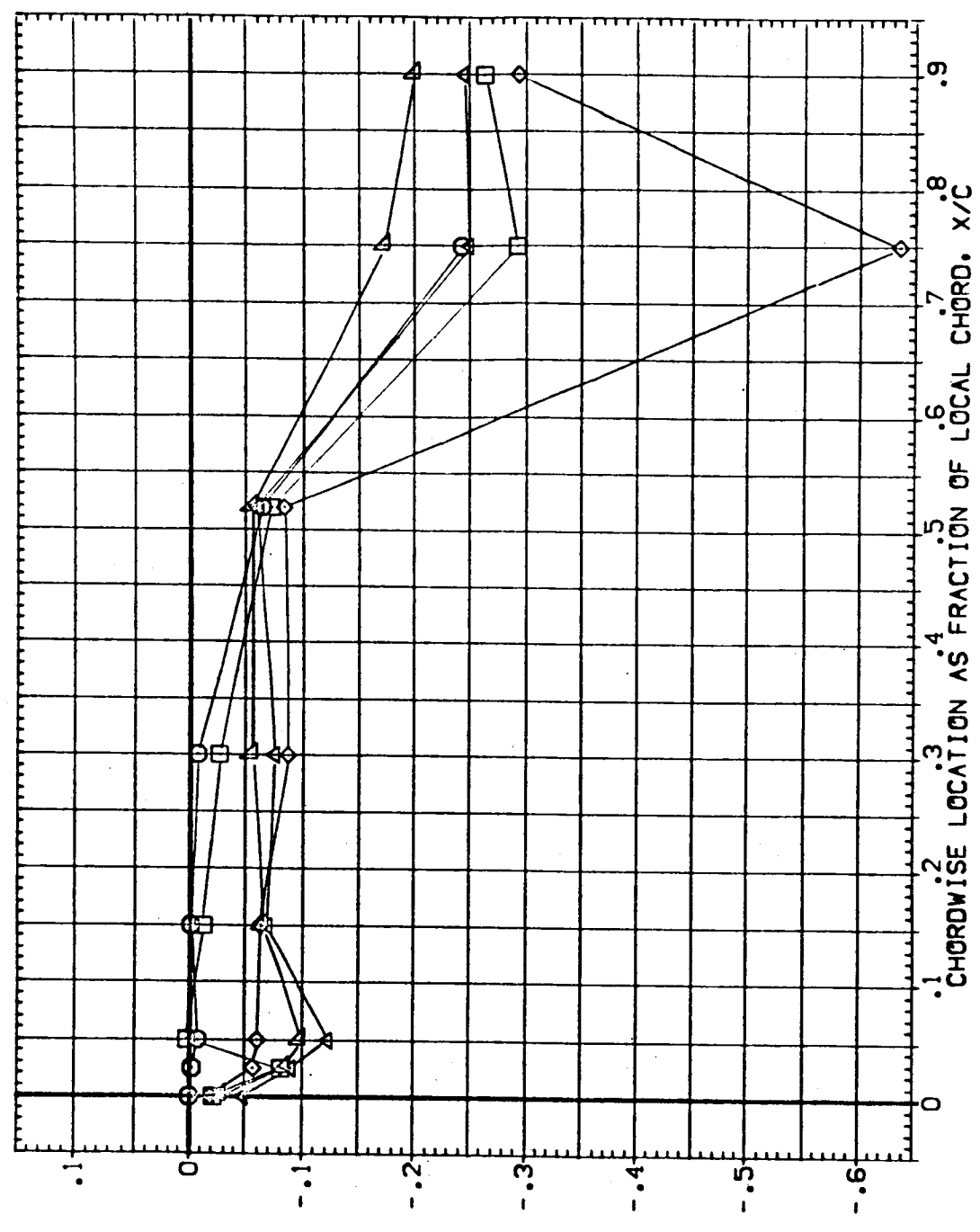


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 01S+STRUT SRB-NOM MPS-NOM VERTICAL (EEUV05)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	ELV-08
○	.156	.000	1.000	RUDER	.000	MACH	1.000
◇	.316			GIMBAL	1.000		
△	.600						
▽	.840						
□	.925						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

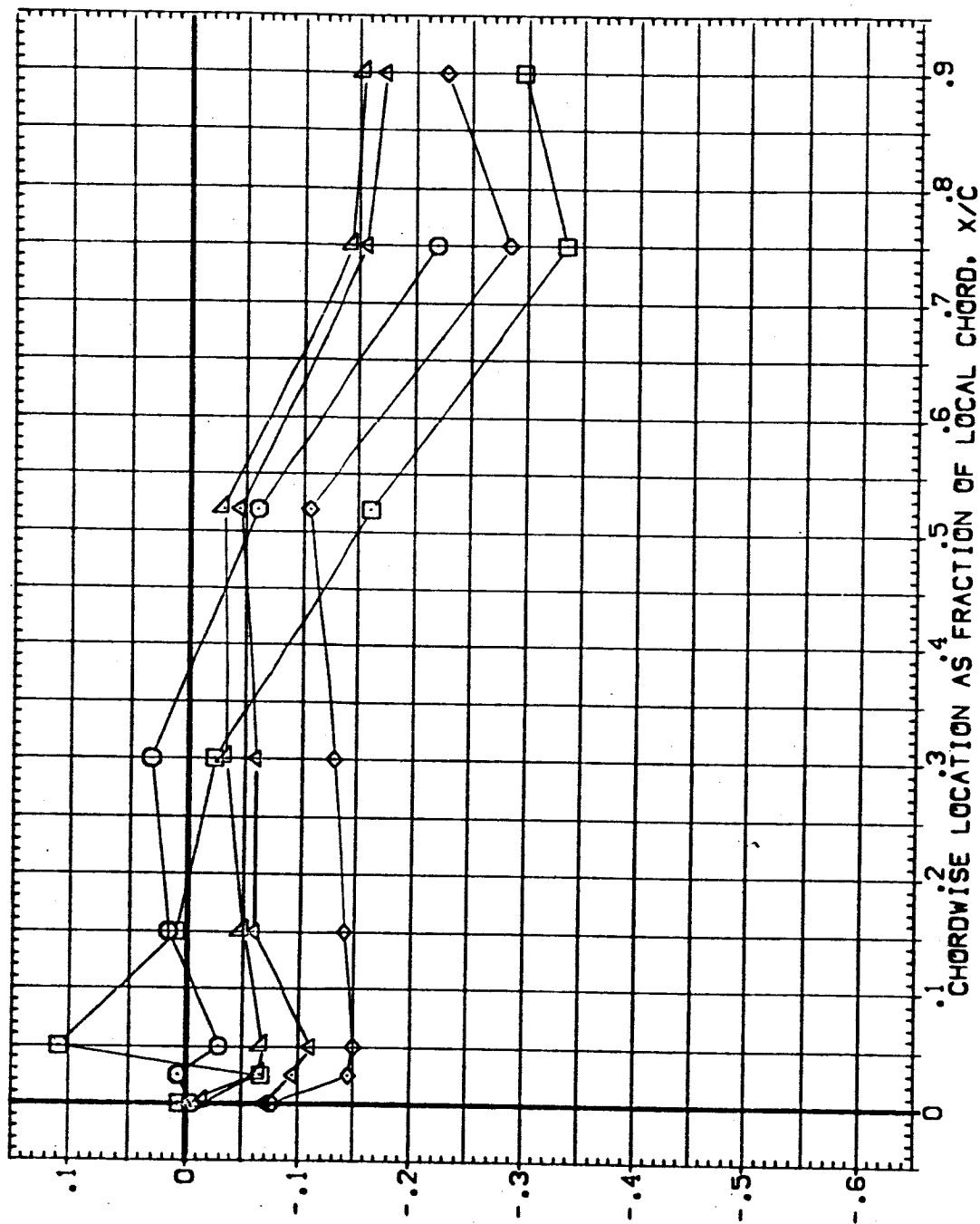


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-09 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

SYMBOL Z/BV BETA ALPHA
 .158
 .316
 .600
 .840
 .925

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

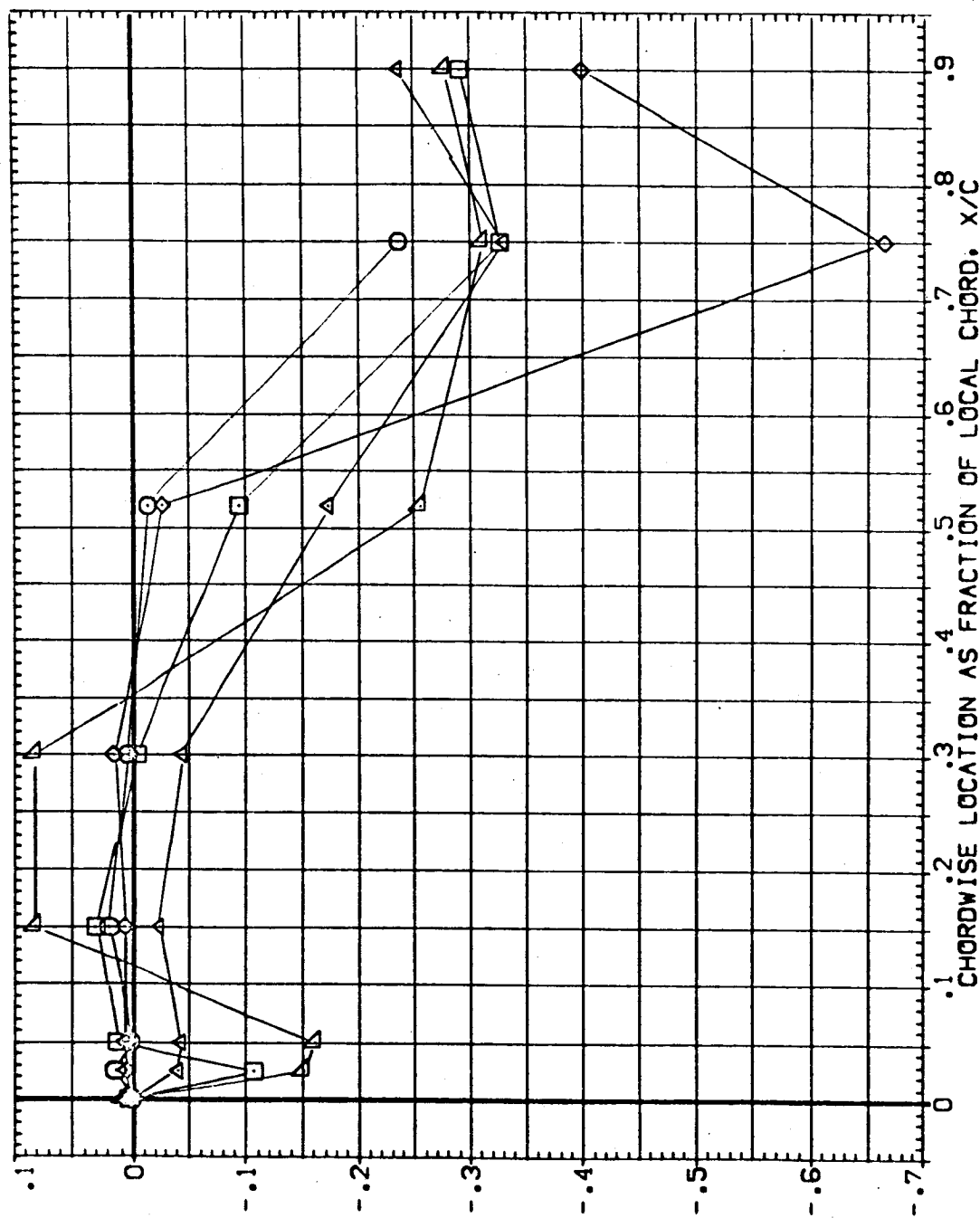


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (FEUV05)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-00	ELV-00
◇	.156	1.000	.000	RUDER	.000	MACH	1.000
◇	.316			GIMBAL	1.000		
◇	.600						
◇	.840						
◇	.925						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

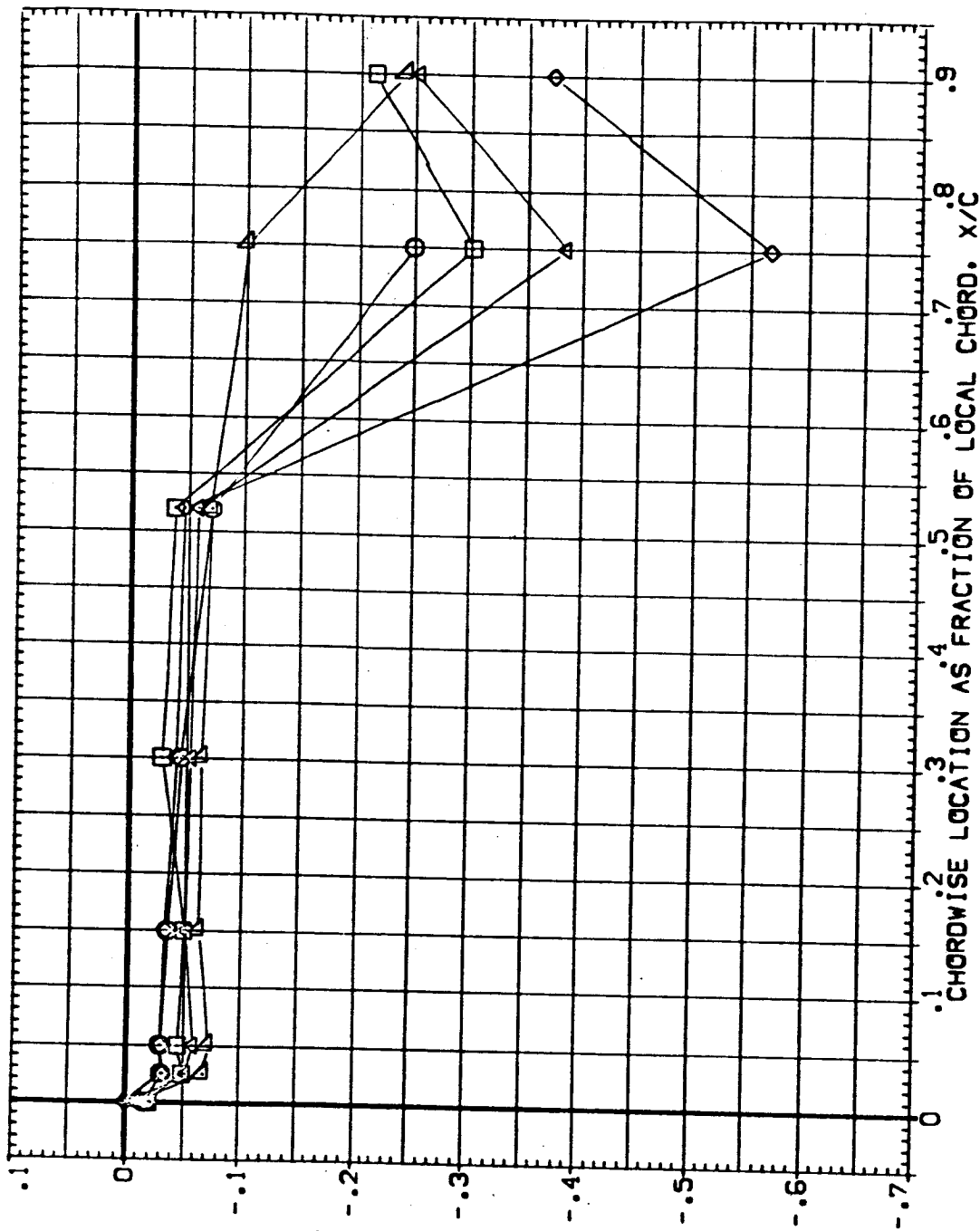


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-00	MACH
□	.158	.000	-4.000	RUDER	.000	1.000	4.000
◇	.316			GIMBAL			1.100
△	.600						
▽	.840						
◊	.975						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

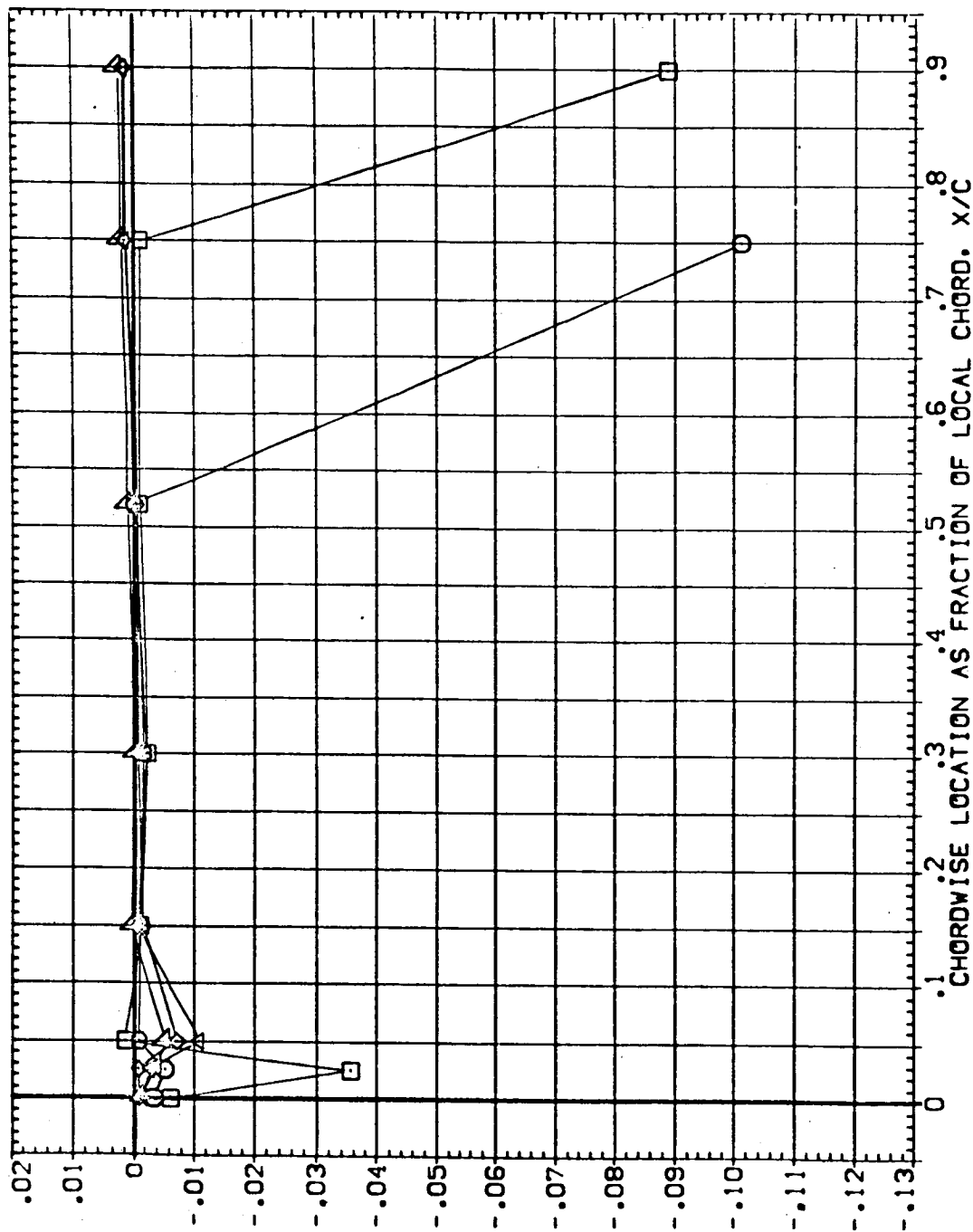


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (EEUV06)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
▽	.158	.000	.000	RUDDER	.000	1.000	4.000
◇	.316	.000	.000	GIMBAL	.000	1.000	1.100
□	.600	.000	.000				
○	.840	.000	.000				
△	.925	.000	.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

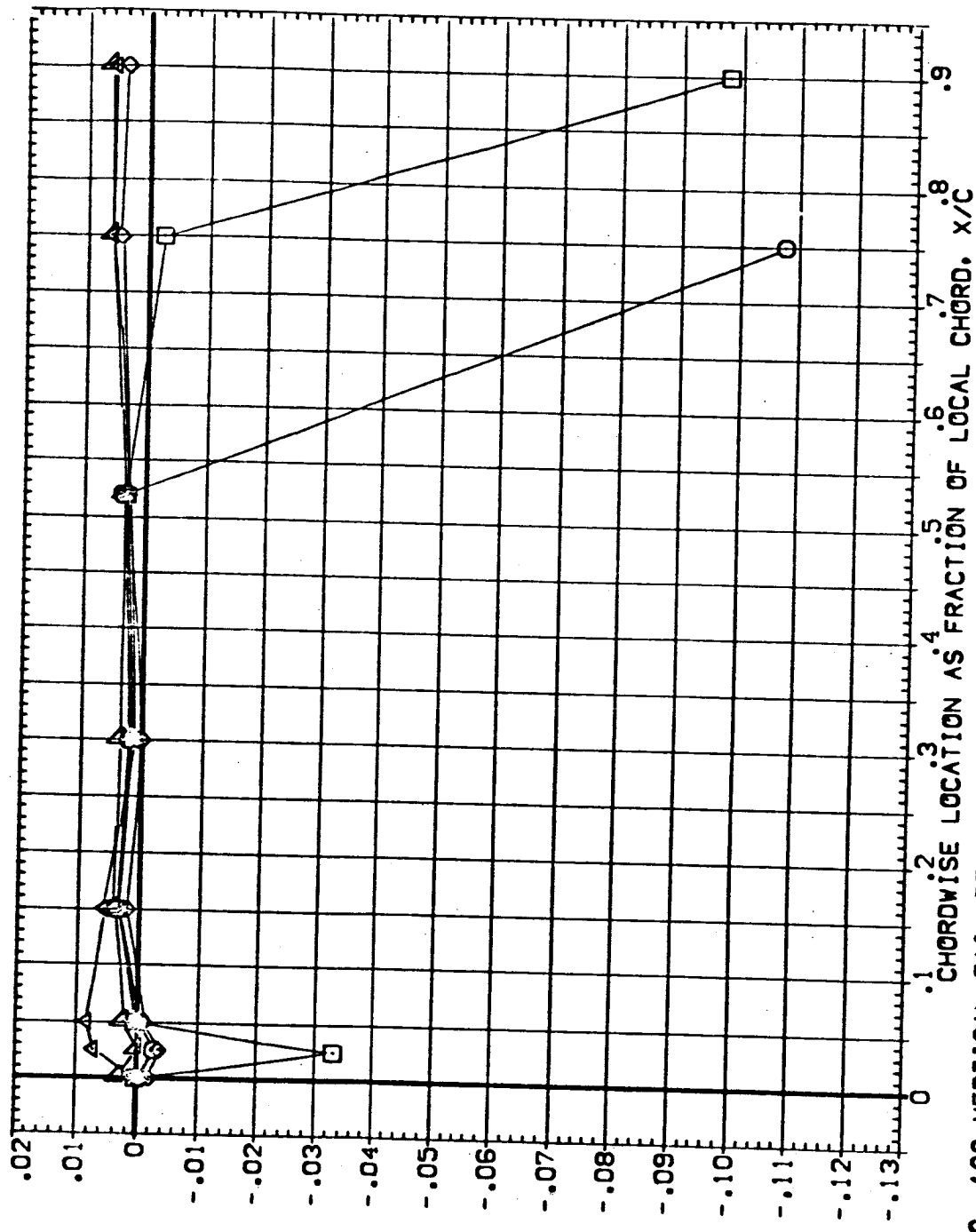


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (EEUV06)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

Z/BV BETA ALPHA
 .156 .000 4.000
 .316
 .600
 .840
 .925

SYMBOL
 1.000
 1.000
 1.000
 1.000
 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

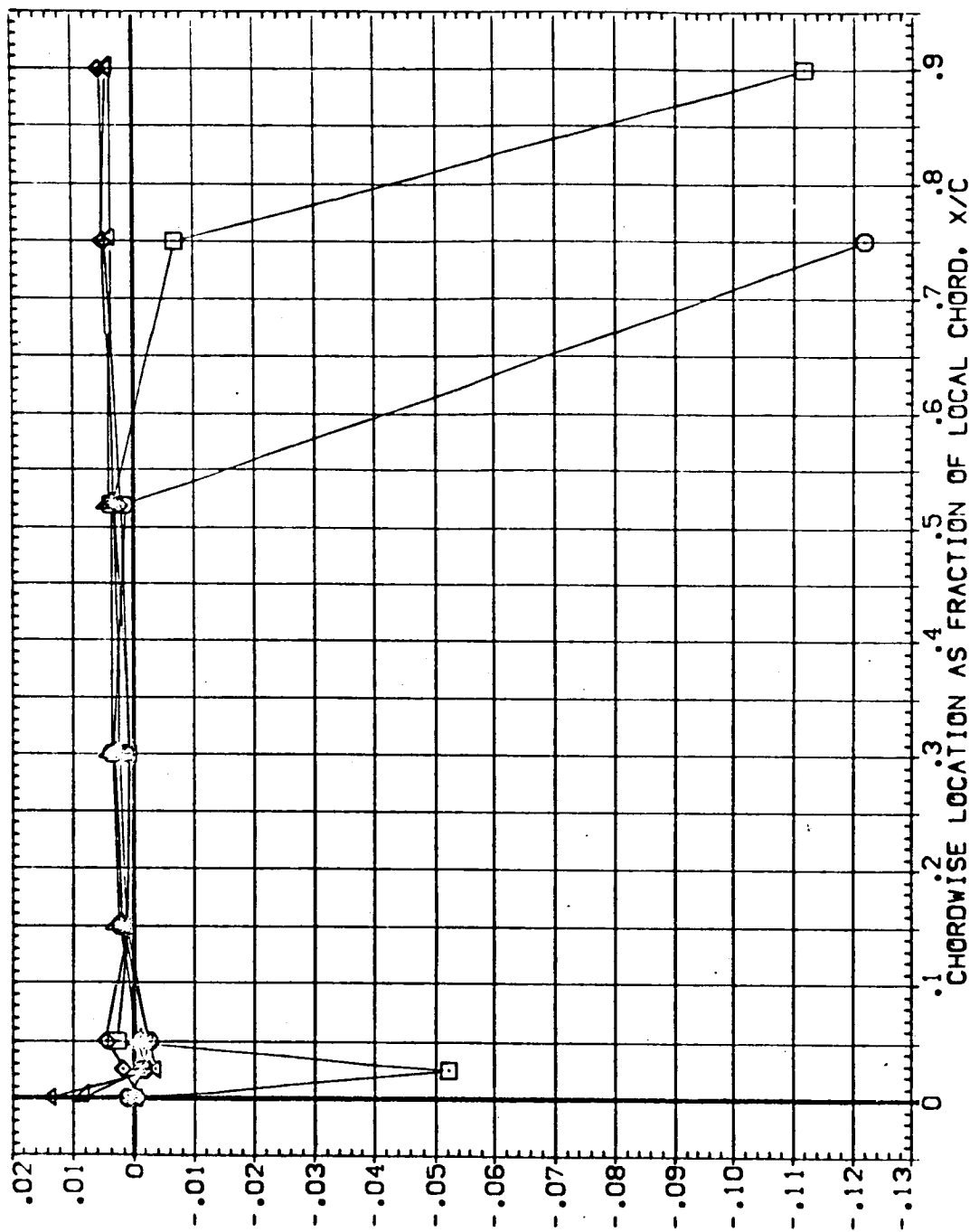


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (FEUV06)

SYMBOL	Z/BV	BETA	ALPHA	ELV-18	ELV-08	PARAMETRIC VALUES
◇	.158	-4.000	.000	RUDER	.000	MACH
◇	.316			GIMBAL	1.000	
◇	.600					
◇	.840					
◇	.925					

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

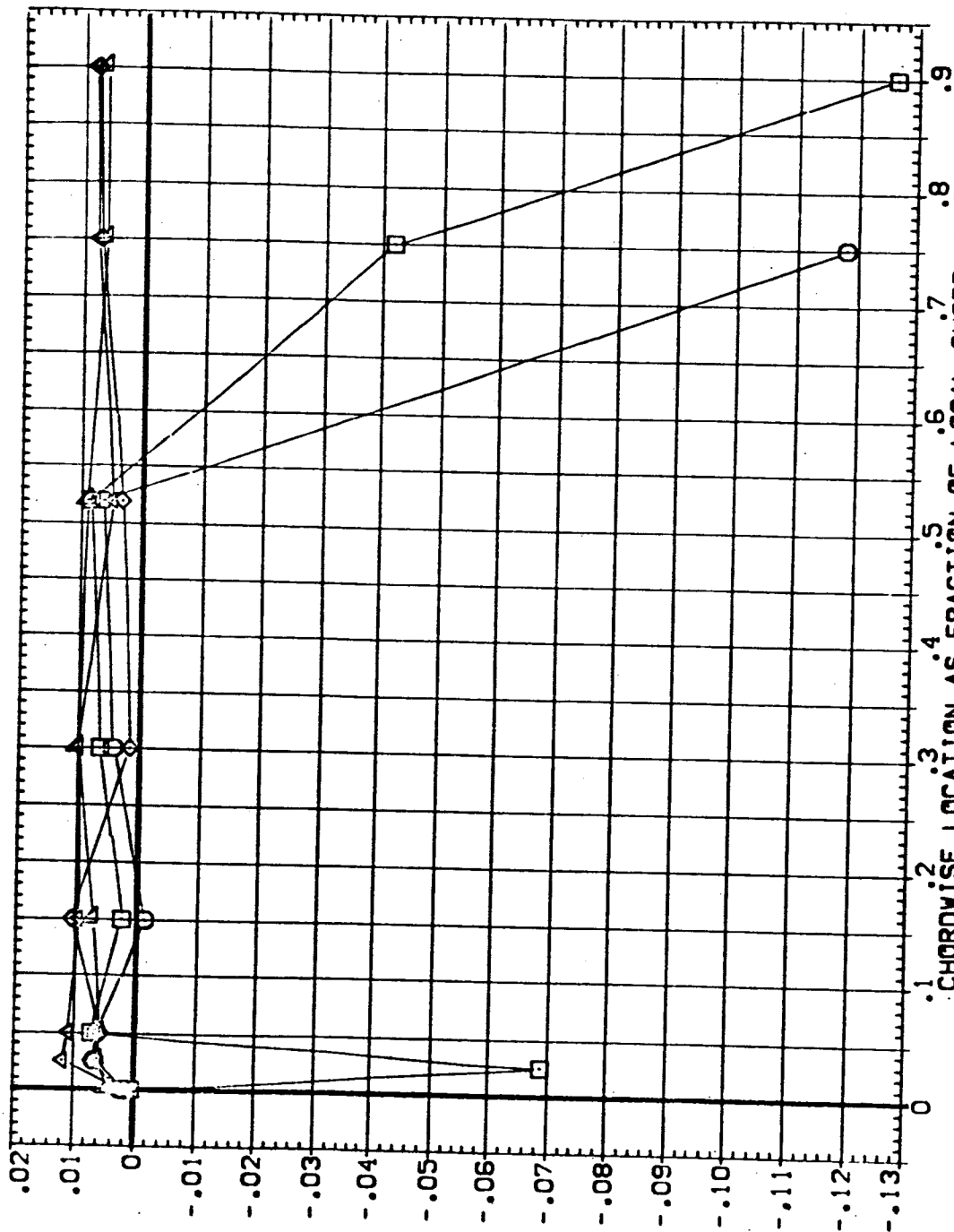


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (FEUV06)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL Z/BV BETA ALPHA
 ▽ .59
 ◇ .316
 ◻ .600
 ◊ .840
 ○ .925

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

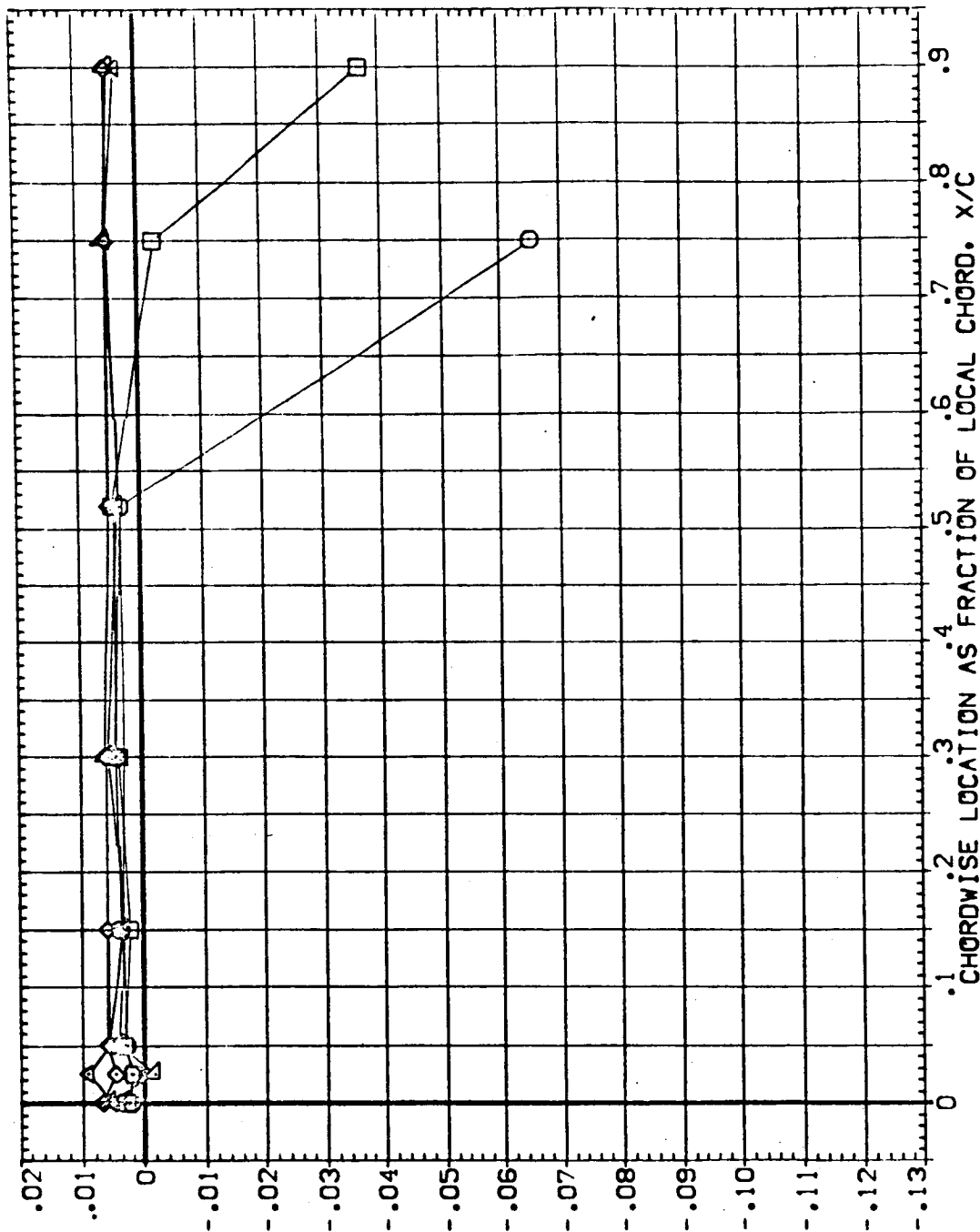


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (EEUV07)

SYMBOL Z/BV BETA ALPHA

○ .158 .000 -1.000

◇ .316 .000 .000

△ .600 .000 .000

▽ .840 .000 .000

▽ .925 .000 .000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.250

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

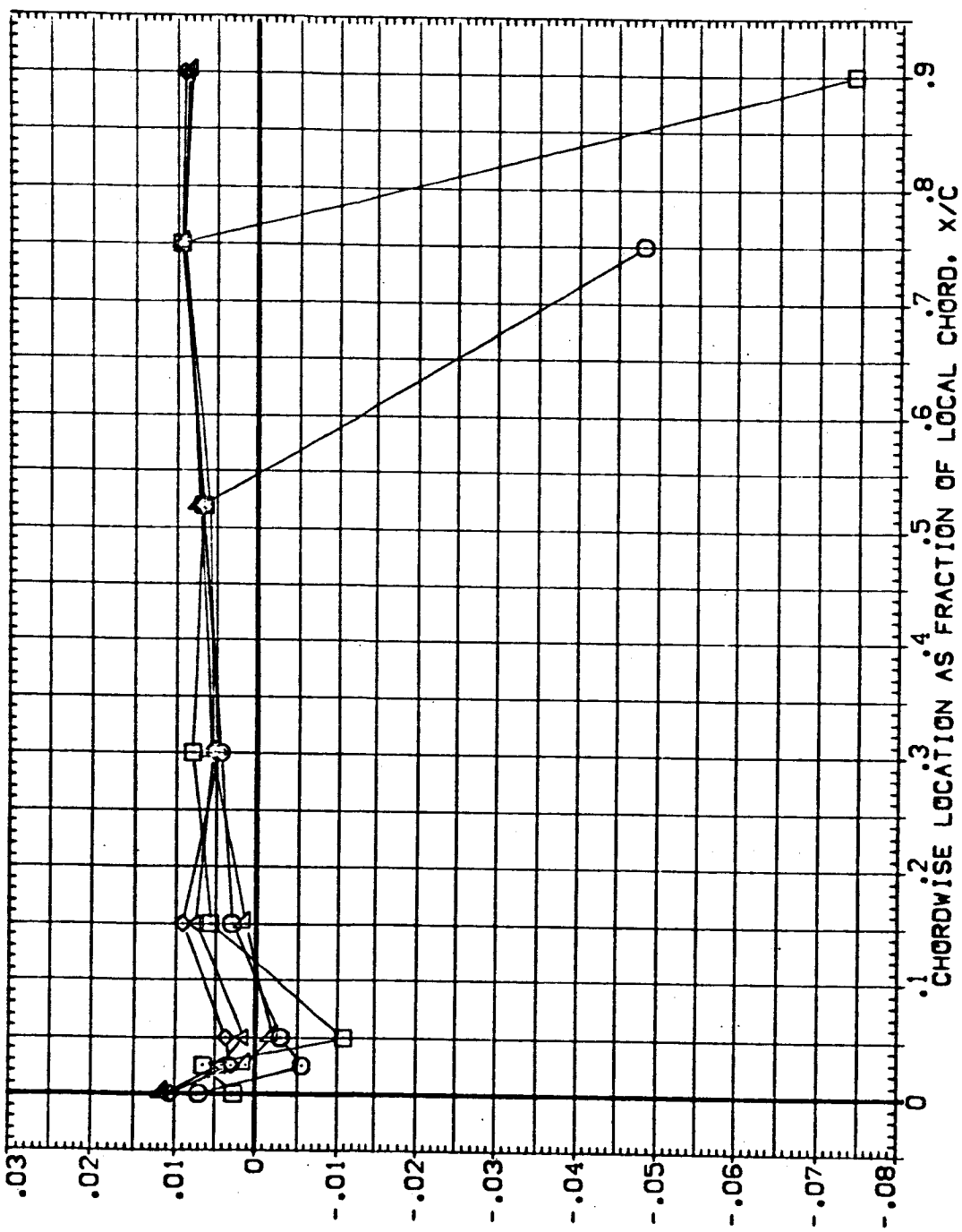


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 01S+STRUT SRB-NOM MPS-NOM VERTICAL (EEUV07)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

SYMBOL Z/BV BETA ALPHA
 ○ .158
 □ .316
 ◇ .600
 △ .840
 ▽ .925

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

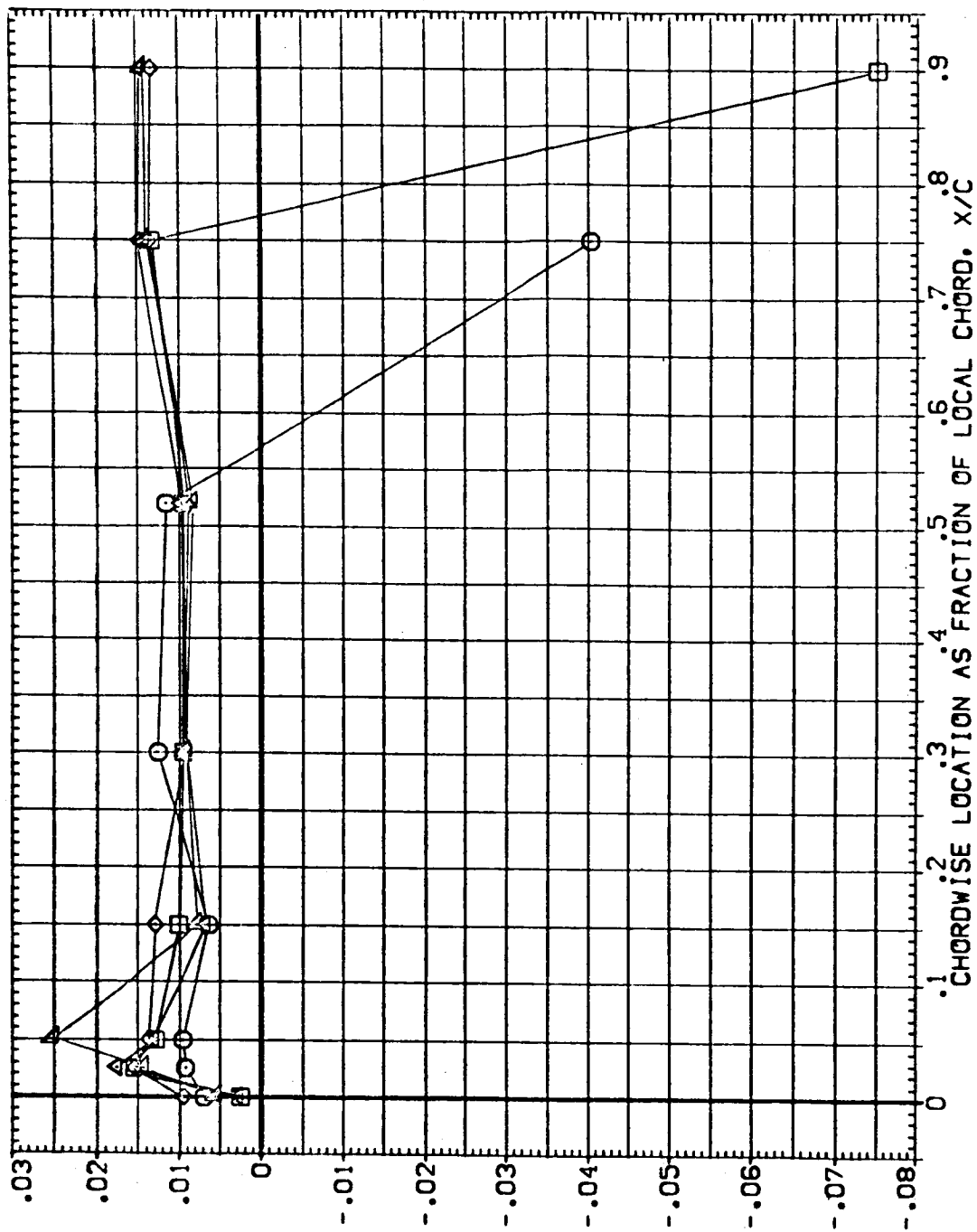


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (EEUV07)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.158	.000	4.000	RUDDER	.000	1.000	
□	.316	.000	4.000	GIMBAL	.000	1.250	
◇	.600	.000	4.000				
△	.840	.000	4.000				
▽	.925	.000	4.000				

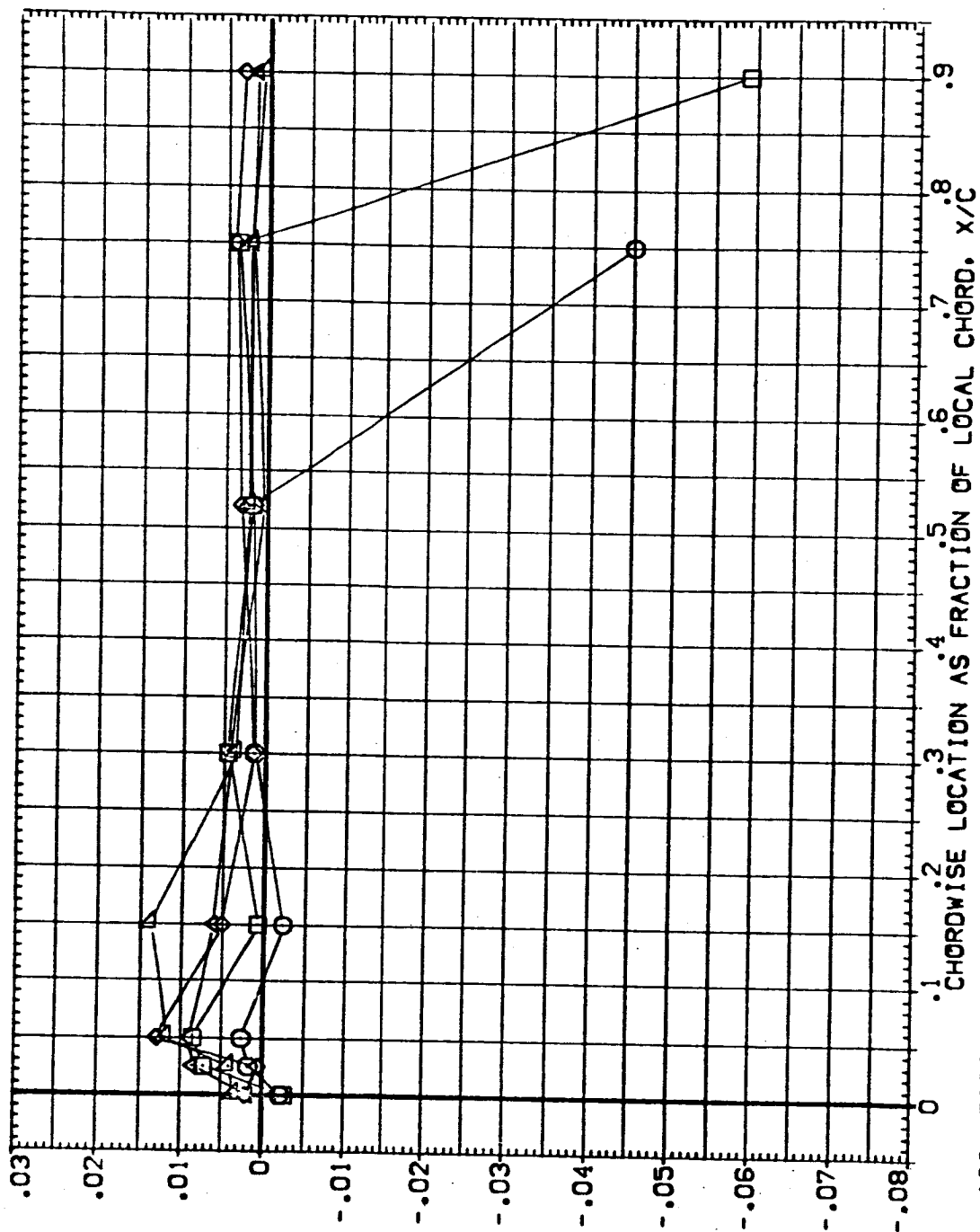


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

Z/BV BETA ALPHA
 .158 -1.000 .000
 .316
 .600
 .840
 .925

SYMBOL
 ▽ ▢ ▣ ▤ ▥ ▦ ▧ ▨ ▩

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

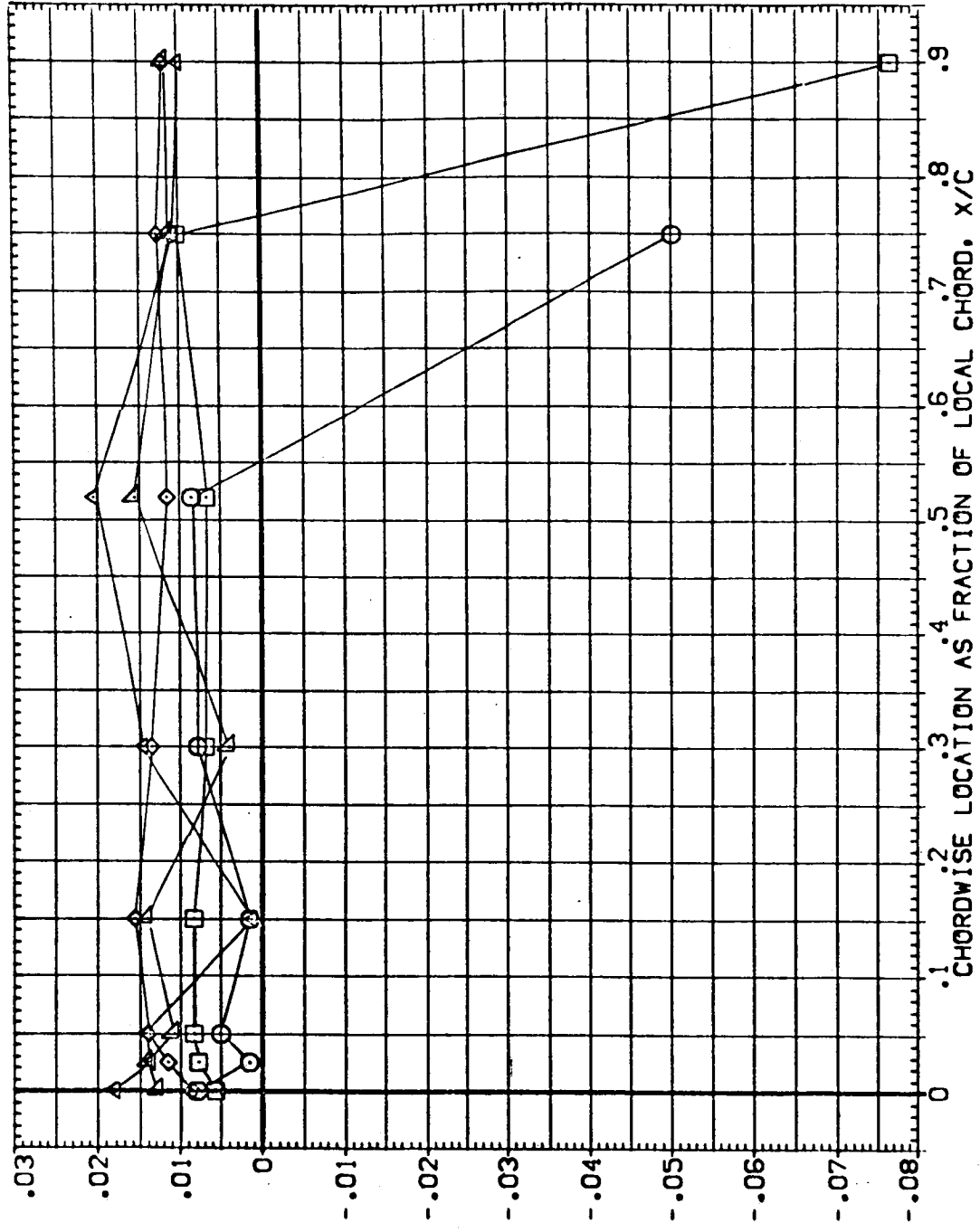


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (FEUV07)

SYMBOL Z/BV BETA ALPHA

△	.158	4.000	.000
□	.316		
○	.600		
◇	.840		
▽	.975		

PARAMETRIC VALUES

ELV-18	8.000	ELV-08	4.000
RUDDER	.000	MACH	1.250
GIMBAL	1.000		

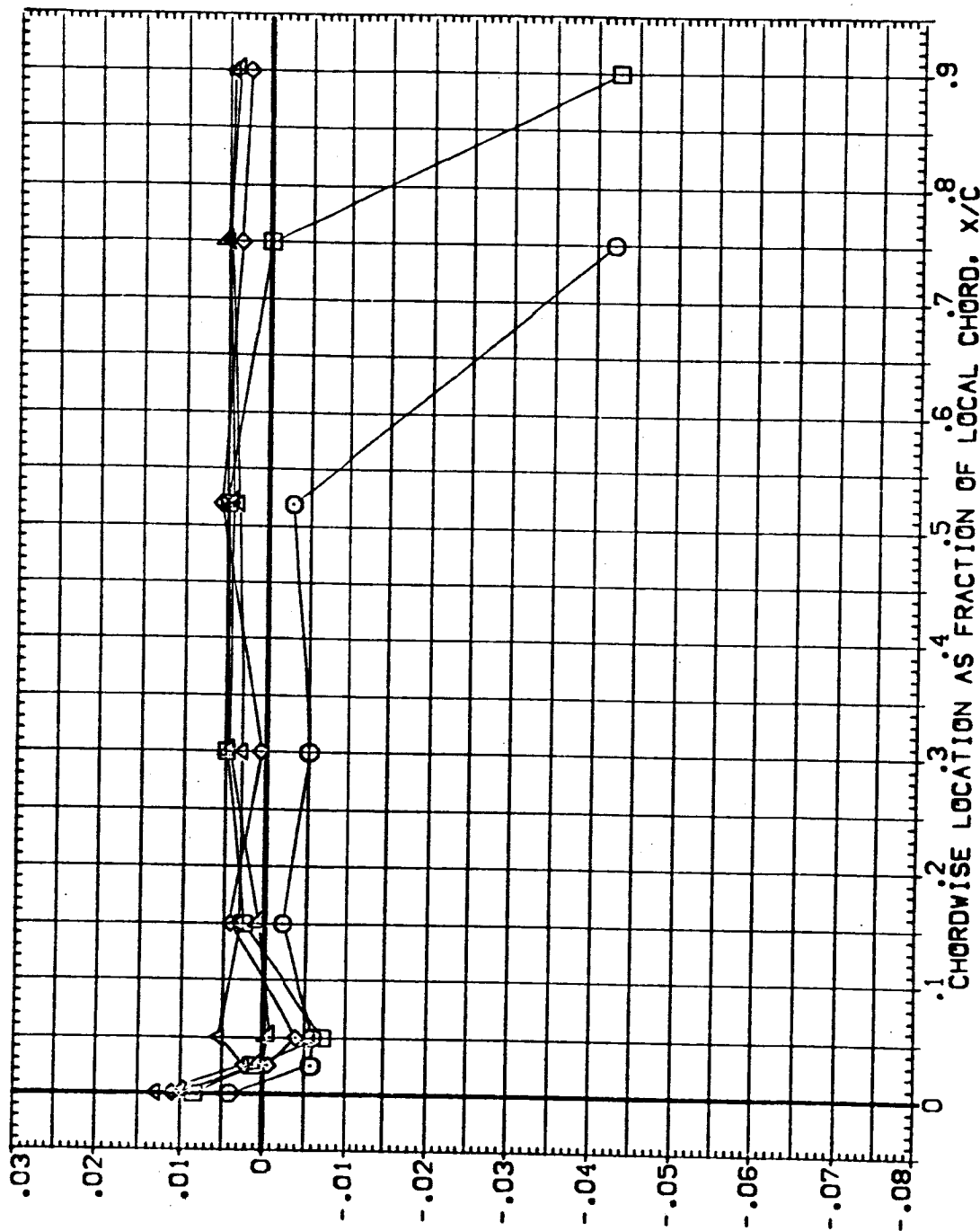


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

SYMBOL	Z/BV	BETA	ALPHA	ELV-18 RUDDER GIMBAL	PARAMETRIC VALUES 8.000 .000 1.000	ELV-08 MACH 1.400
○	.150	.000	-4.000			
◇	.316					
□	.600					
△	.840					
×	.925					

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

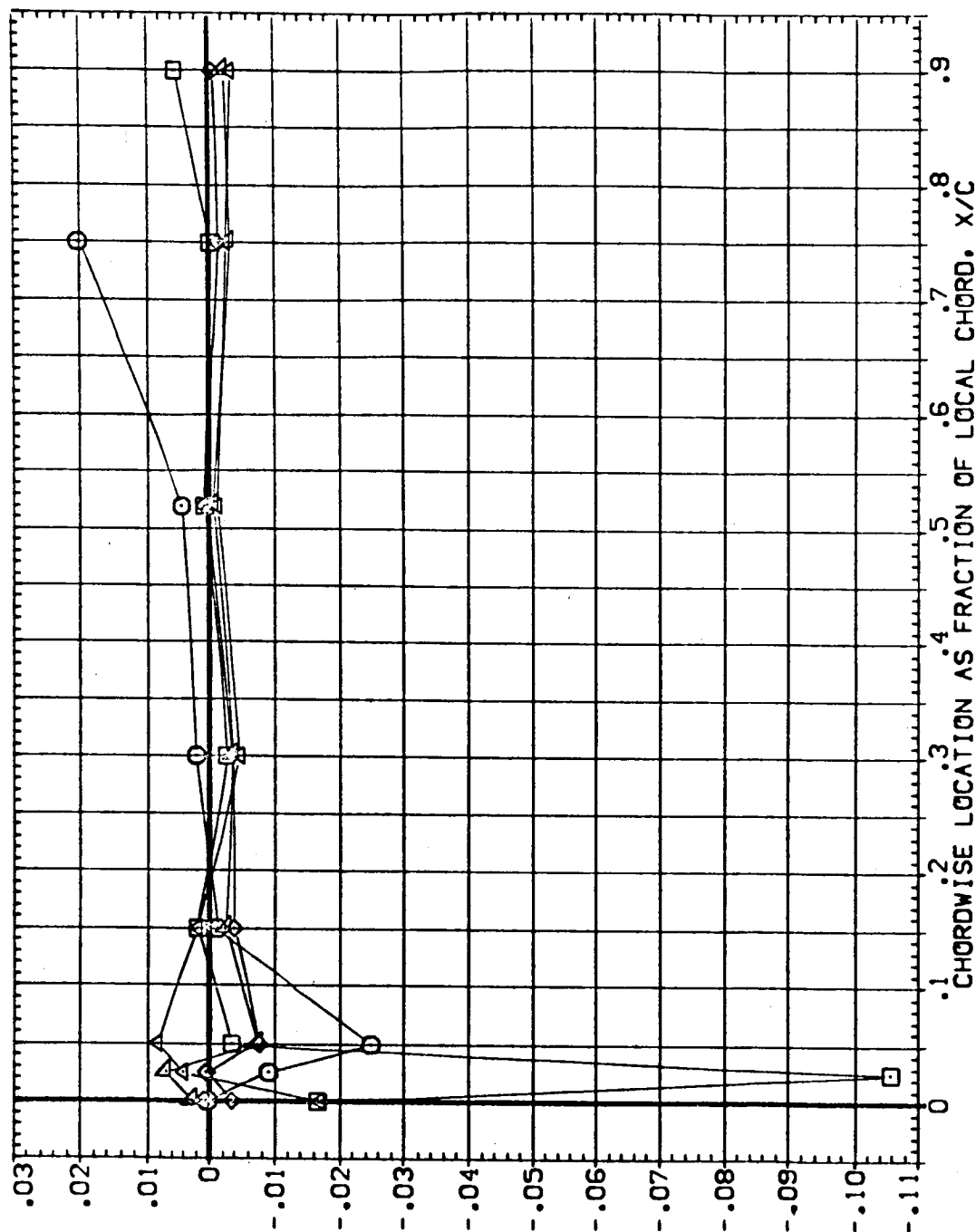


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (EEUV08)

SYMBOL	Z/8V	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.158	.000	.000	RUDDER	.000	1.000	4.000
△	.316	.000	.000	GIMBAL	.000	1.000	1.400
□	.600	.000	.000				
◇	.840	.000	.000				
▽	.925	.000	.000				

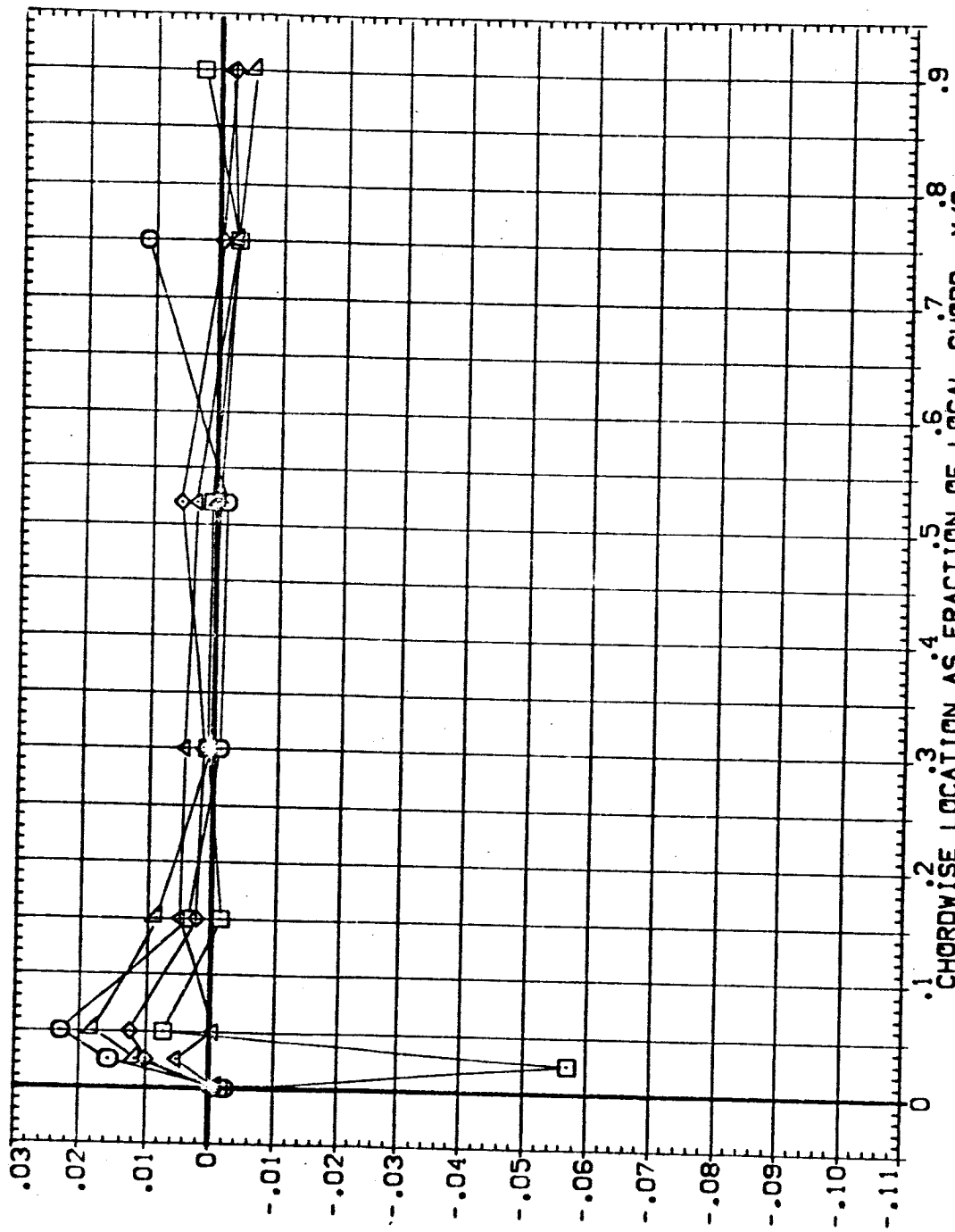


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-09	ELV-08	ELV-07
○	.156	.000	1.000	RUDDER	.000	MACH	1.400
□	.316			GIMBAL	1.000		
◇	.600						
△	.840						
▽	.925						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

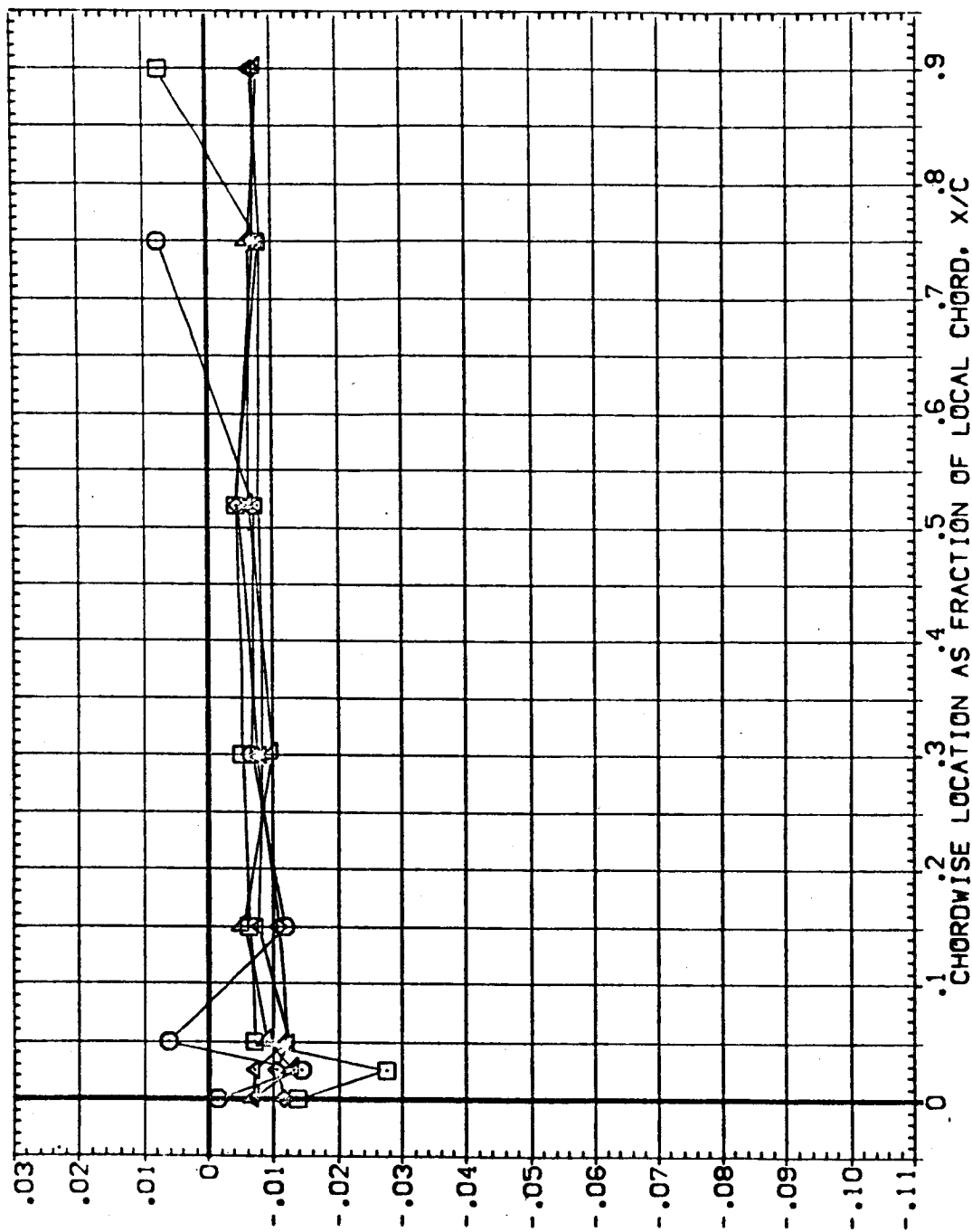


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM VERTICAL (FEUV08)

SYMBOL Z/BV BETA ALPHA

□	.158	-1.000	.000
◇	.316		
◇	.600		
◇	.840		
◇	.925		

PARAMETRIC VALUES

ELV-18	ELV-08
8.000	4.000
RUDER	MACH
.000	1.000
GIMBAL	

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

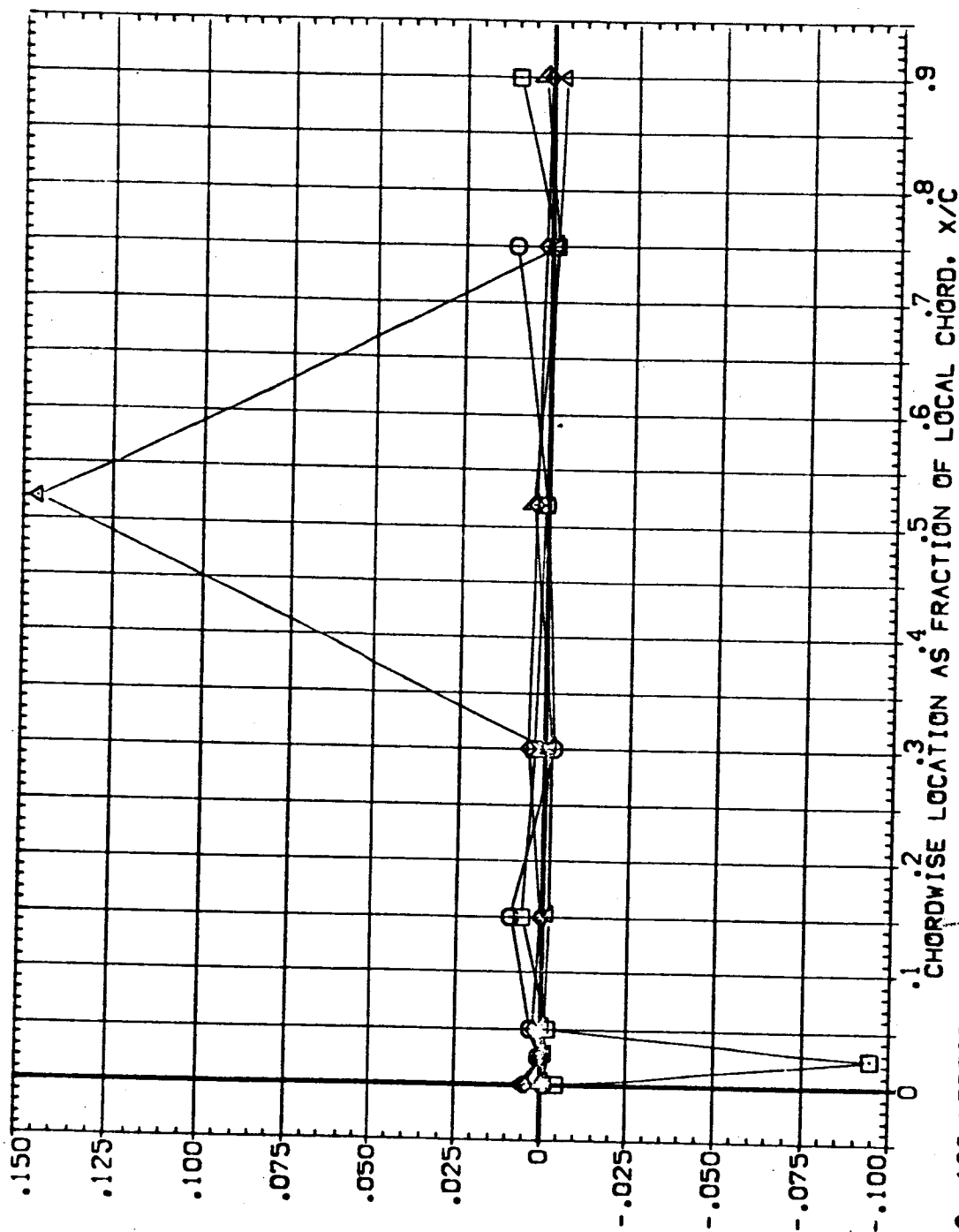


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 1.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

SYMBOL Z/BV BETA ALPHA
 1 0.158 4.000 .000
 2 0.316 .600 .840
 3 0.600 .840 .975
 4 0.840 .975 .975

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

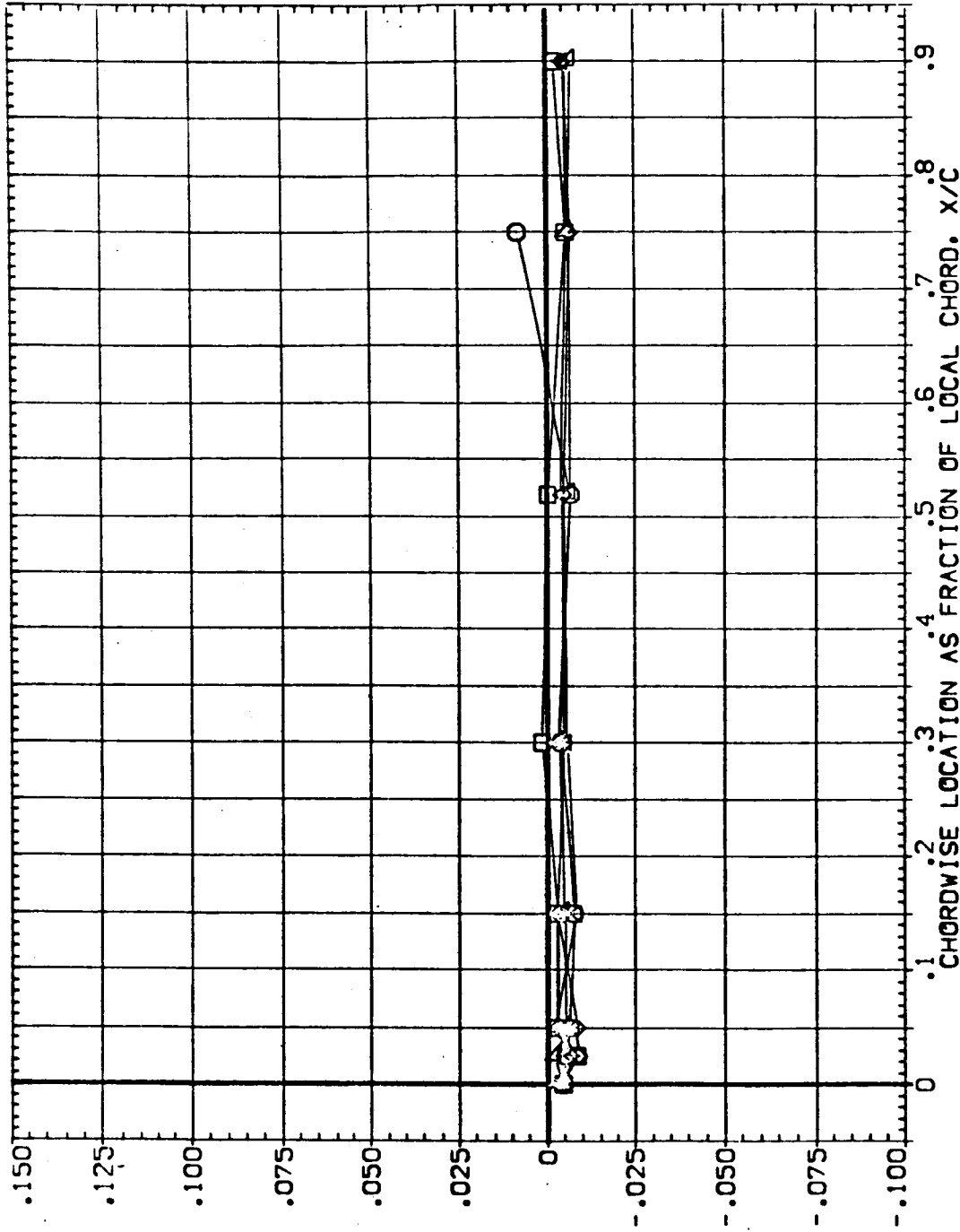


FIG. 100 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (EEUV:3)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
◇	.156	.000	-4.000	RUDDER	.000	1.000	.900
◇	.316			GIMBAL			
◇	.600						
◇	.840						
◇	.925						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

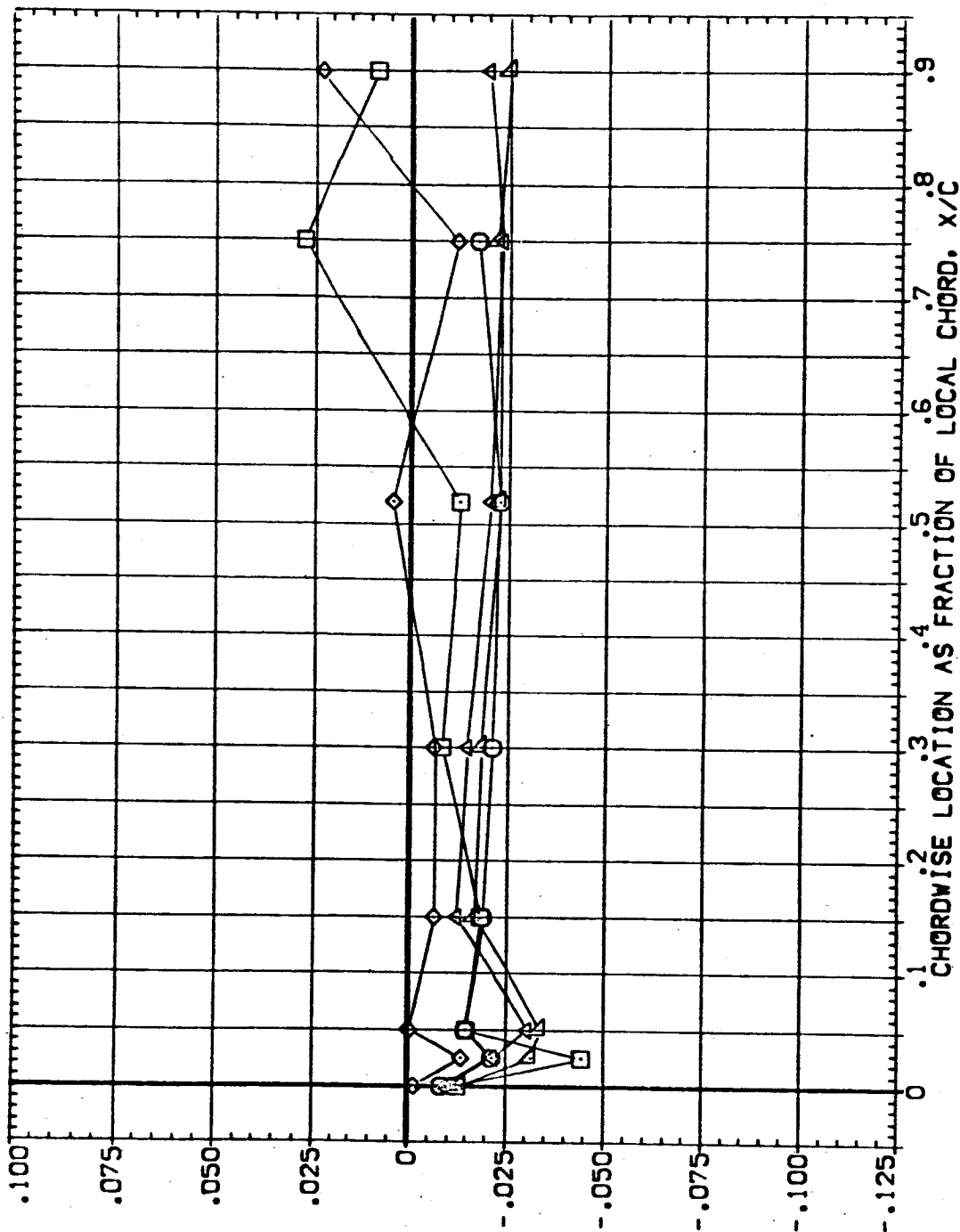


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+SIRUT SRB-NOM MPS-OFF VERTICAL (EEUV13)

SYMBOL Z/BV BETA ALPHA

○ .158 .000 .000
 □ .316 .000 .000
 ◇ .600 .000 .000
 △ .840 .000 .000
 ▲ .925 .000 .000

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-OB 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

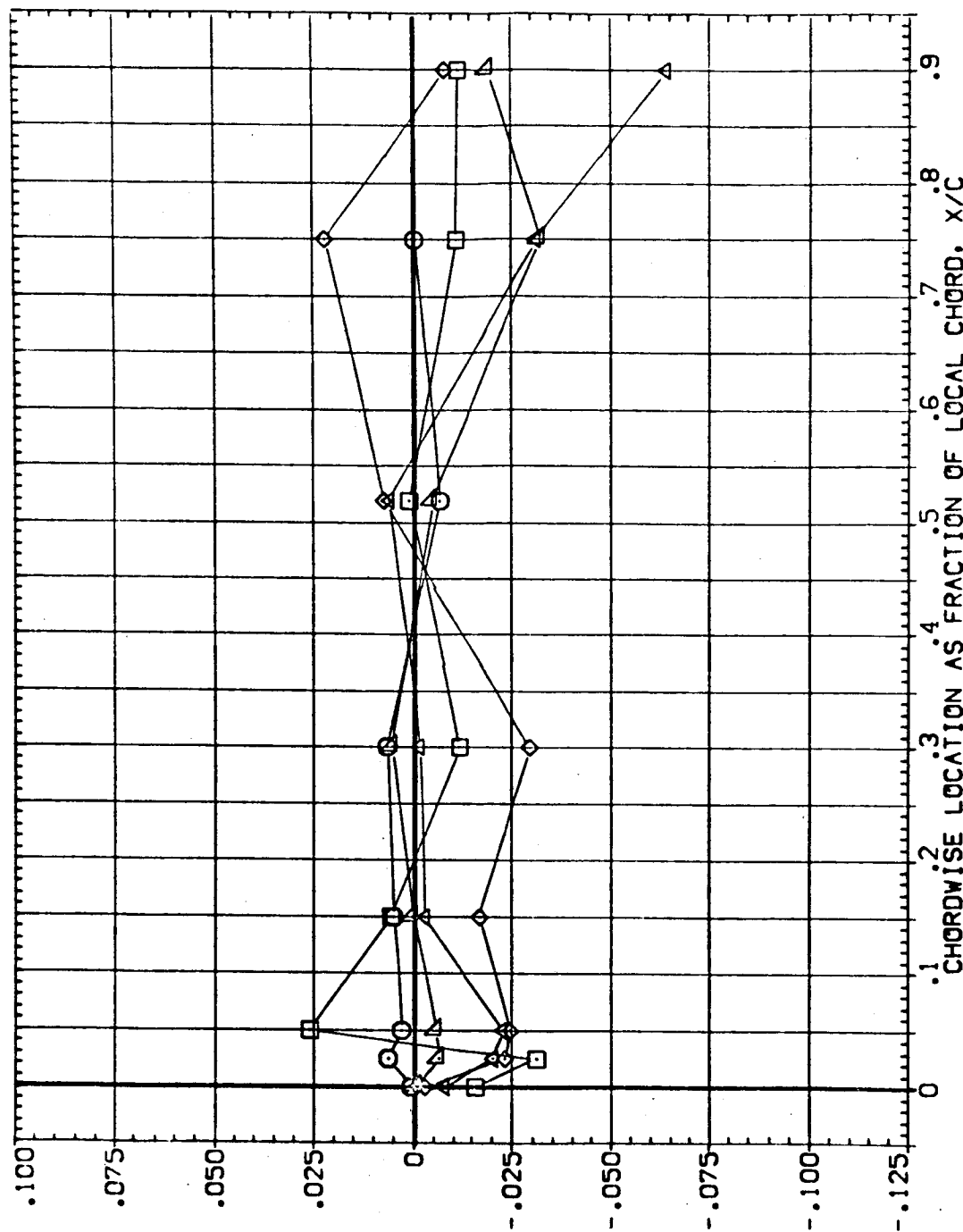


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (EEUV13)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	ELV-08
◇	.158	.000	4.000	RUDER	.000	MACH	.900
◇	.316			GIMBAL	1.000		
◇	.600						
◇	.840						
◇	.925						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

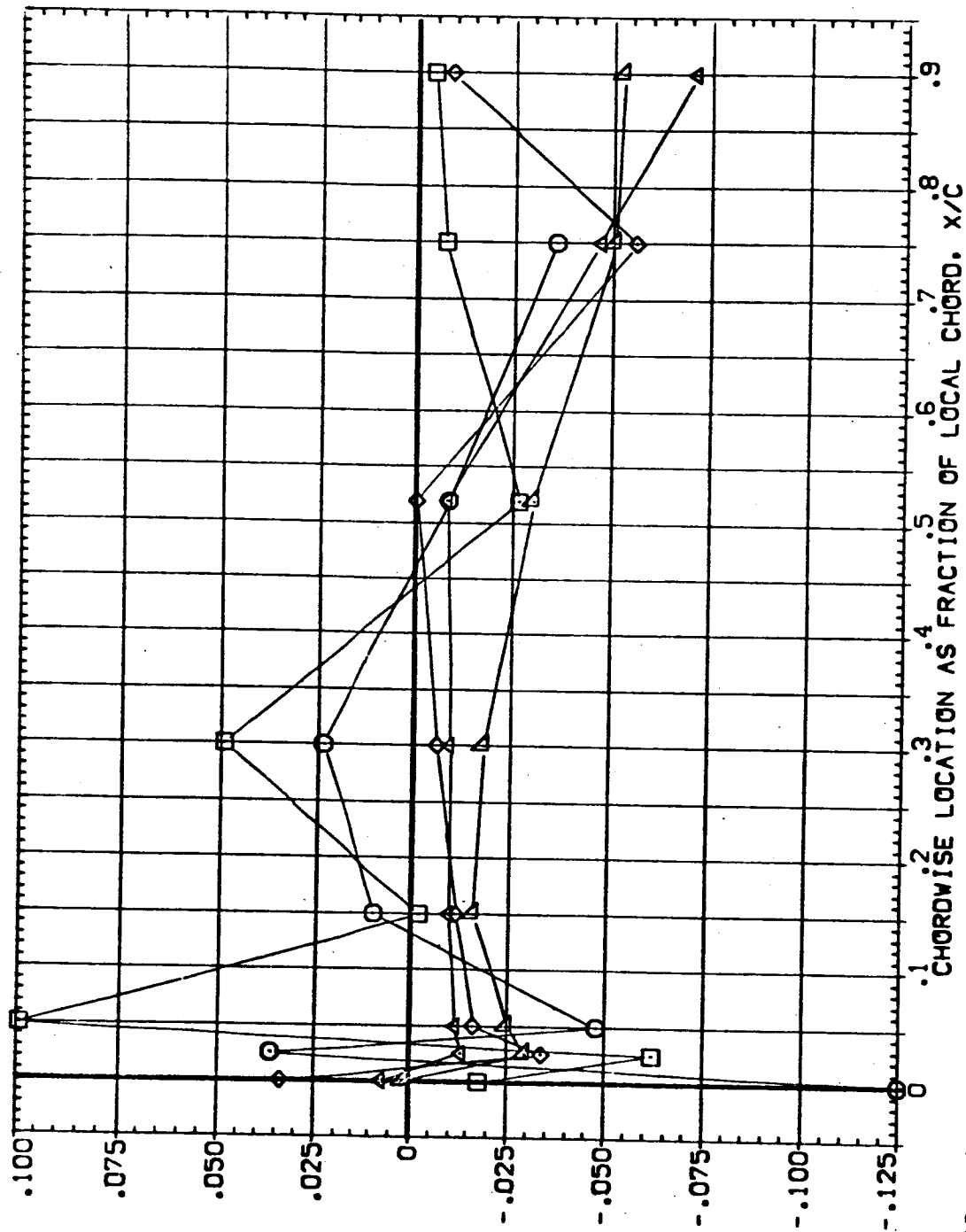


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
▽	.158	-4.000	.000	RUDER	.000	MACH	.900
◇	.316			GIMBAL	1.000		
□	.600						
△	.840						
▽	.925						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

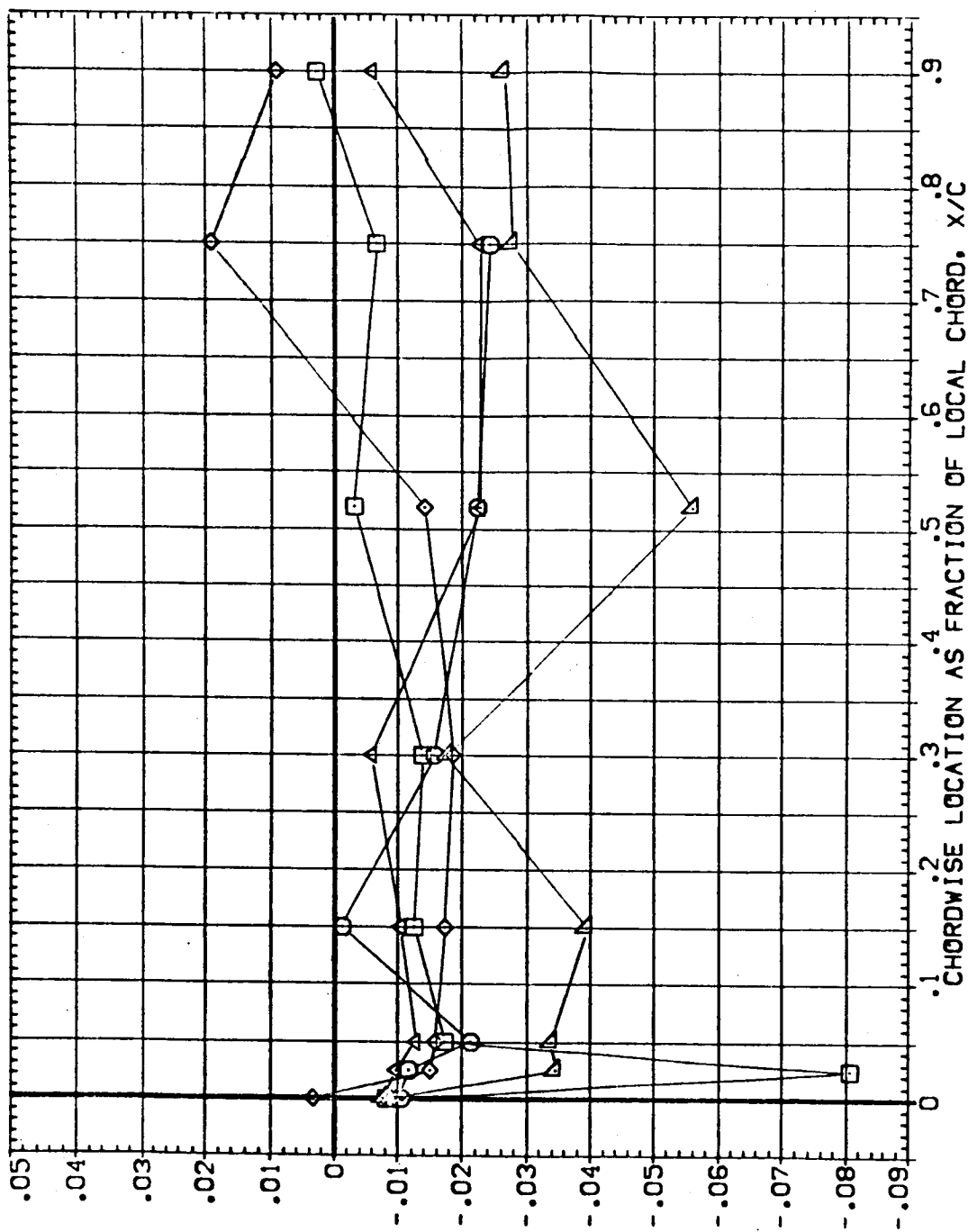


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ELV-18	8.000	ELV-08
RUGGER	.000	MACH
GIMBAL	1.000	

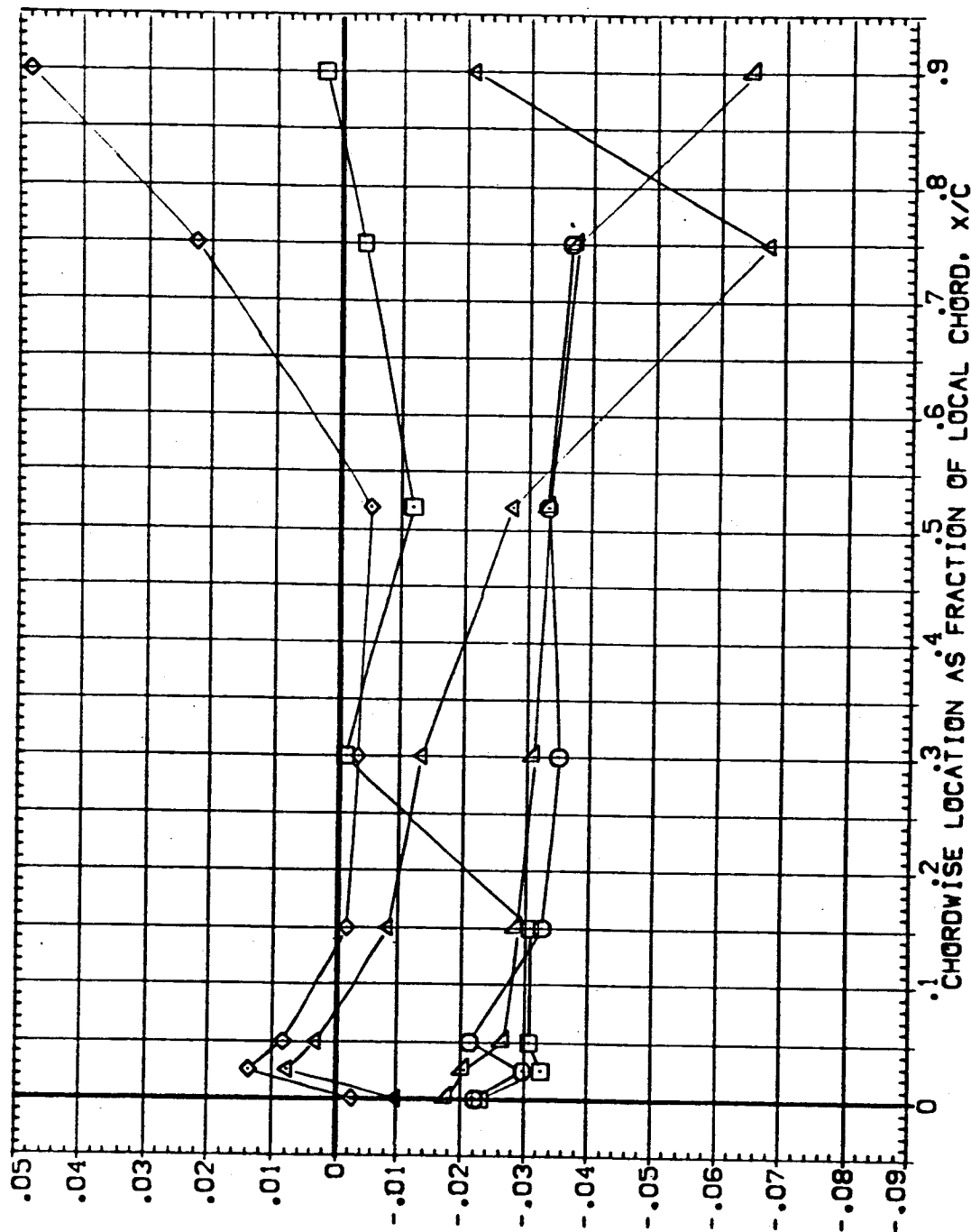


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
	.158	.000	-4.000	RUDER	.000	MACH	1.100
	.316			GIMBAL	1.000		
	.600						
	.840						
	.925						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

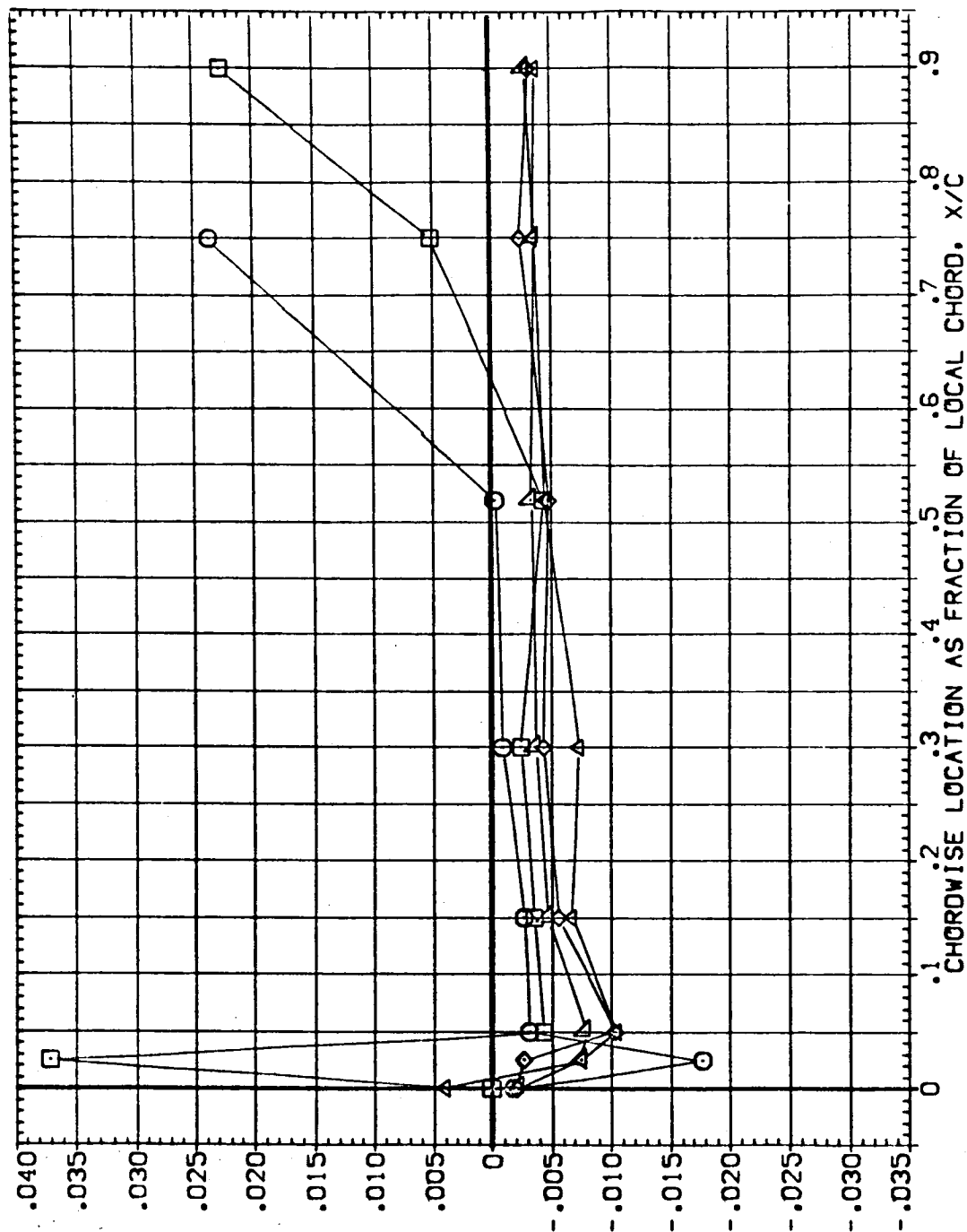


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (EEUV14)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-09 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL Z/BV BETA ALPHA
 ○ .158 .000
 □ .316 .000
 △ .600 .000
 ◇ .840 .000
 ▽ .925 .000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

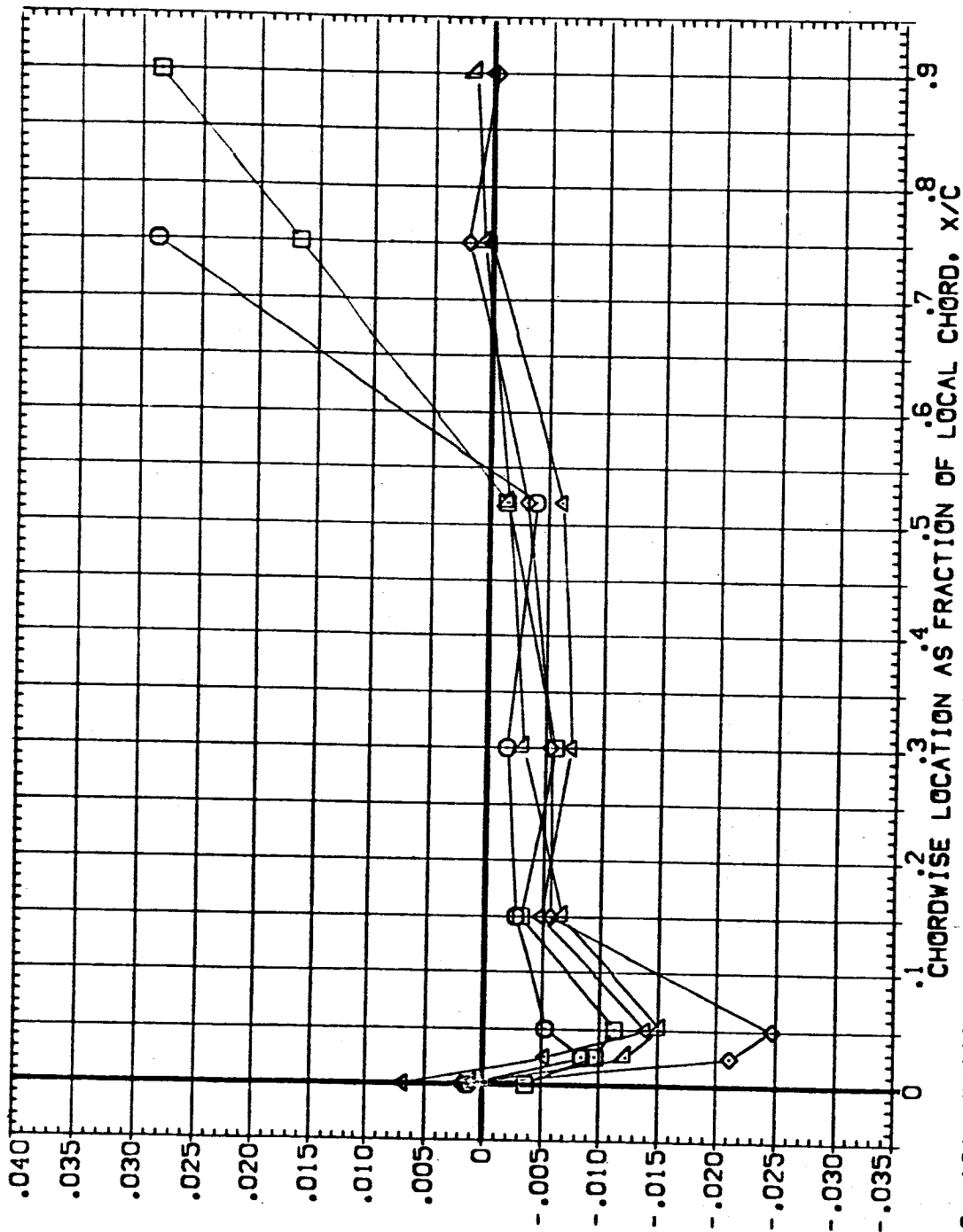


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (EEUV14)

SYMBOL Z/BV BETA ALPHA

○ .158 .000 4.000

□ .316 .000 4.000

◇ .600 .000 4.000

△ .840 .000 4.000

▽ .925 .000 4.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDDER .000 MACH 1.100

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

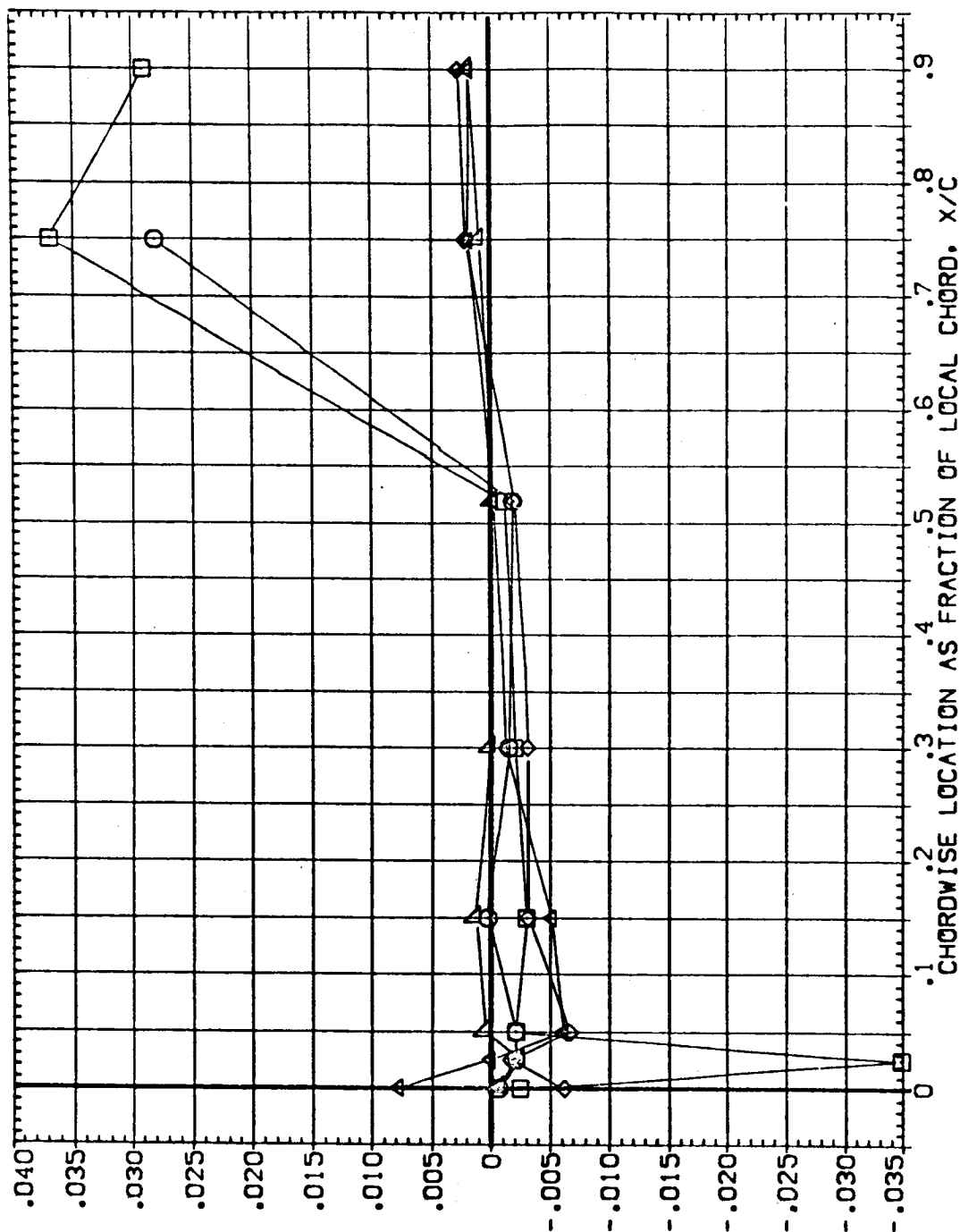


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (FEUV14)

SYMBOL Z/BV BETA ALPHA

○ .158 -4.000 .000
 □ .316 -4.000 .000
 △ .600 .840 .925

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

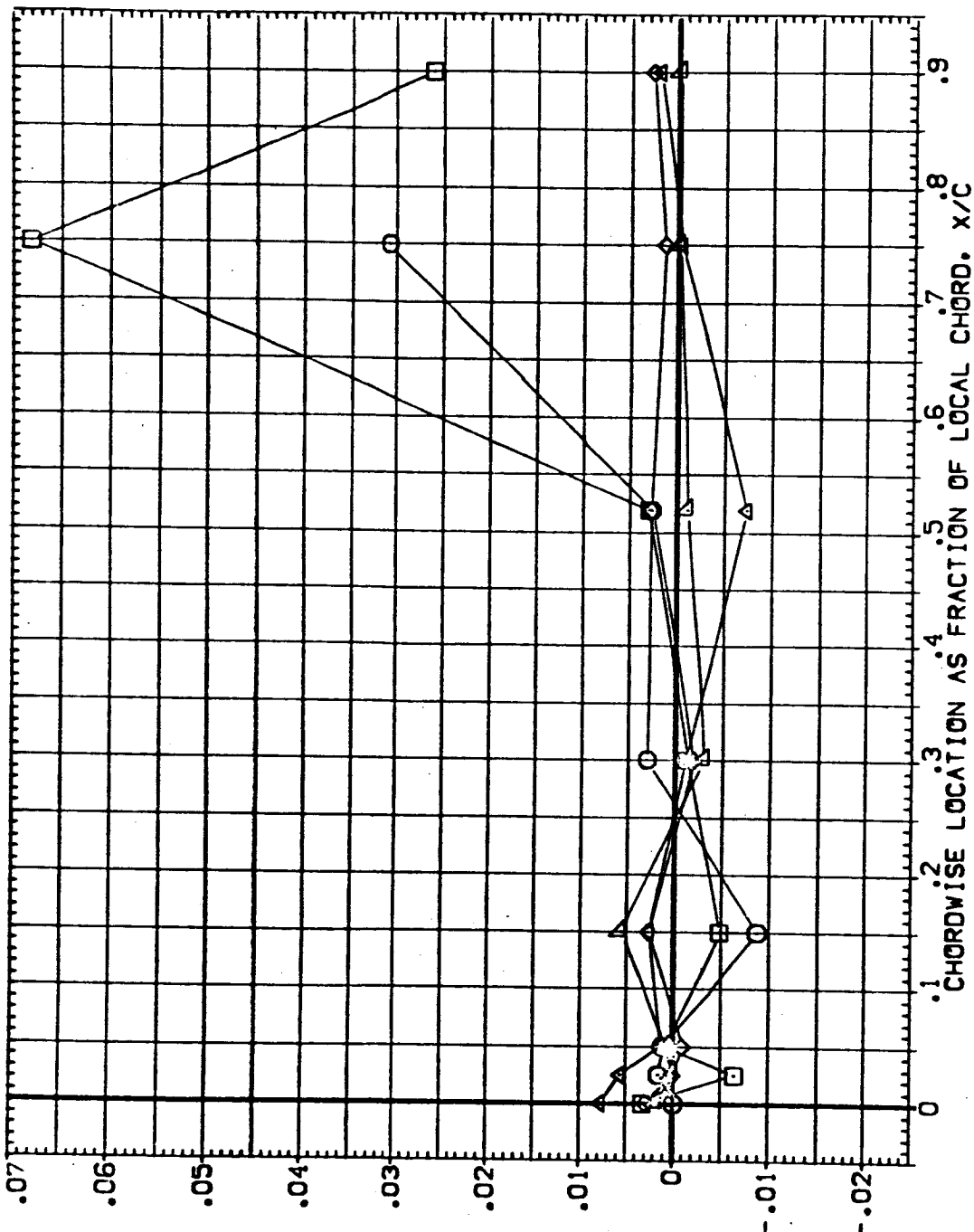


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-1B	ELV-08	ELV-08	MACH
▽	.158	4.000	.000	RUDDER	.000	1.000	1.000
◇	.316			GIMBAL			
□	.600						
△	.840						
○	.925						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

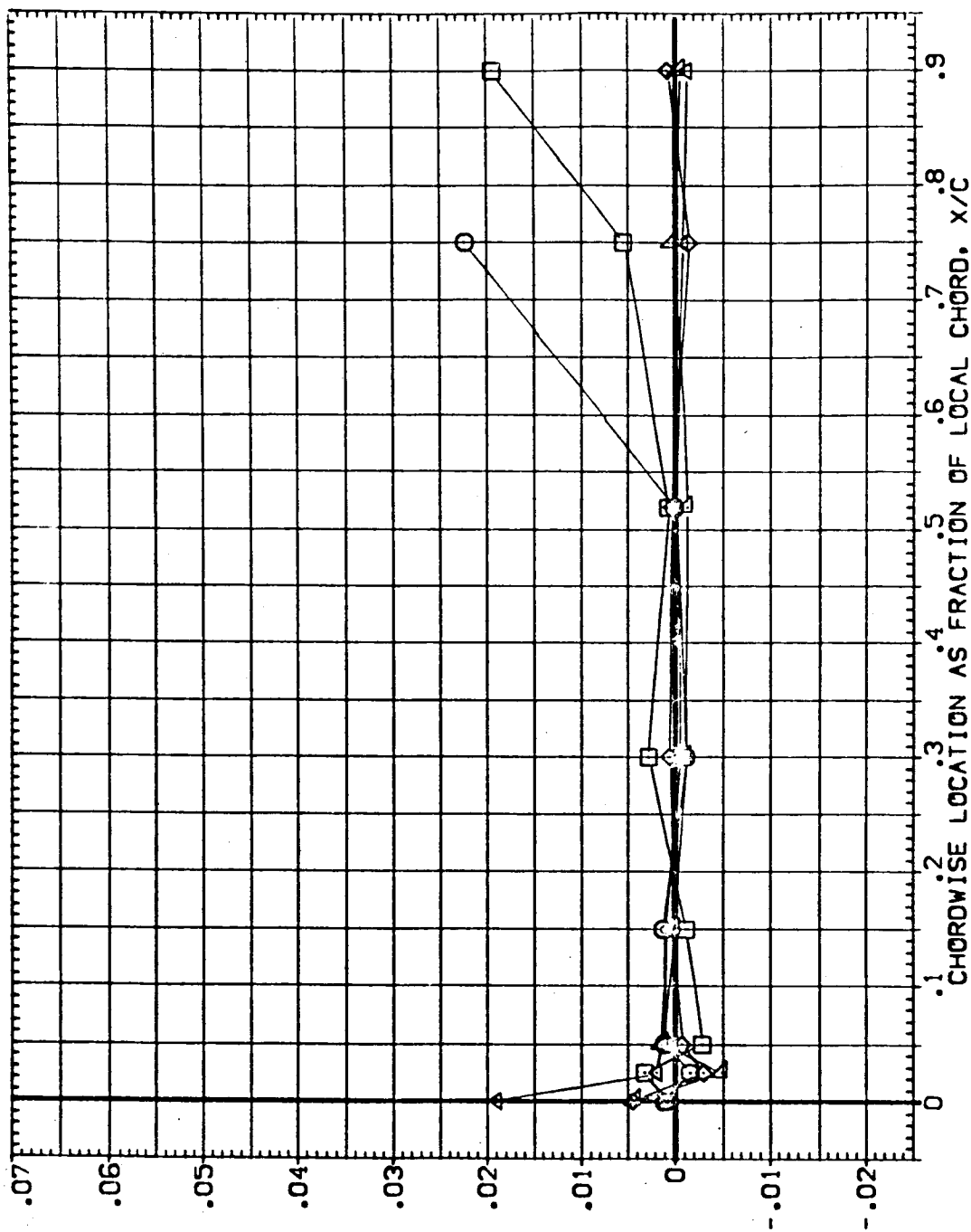


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (EEUV15)

SYMBOL Z/BV BETA ALPHA

○	.158	.000	-4.000
◇	.316		
△	.600		
▽	.840		
▽	.925		

PARAMETRIC VALUES

ELV-18	8.000	ELV-08	4.000
RUDER	.000	MACH	1.250
GIMBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

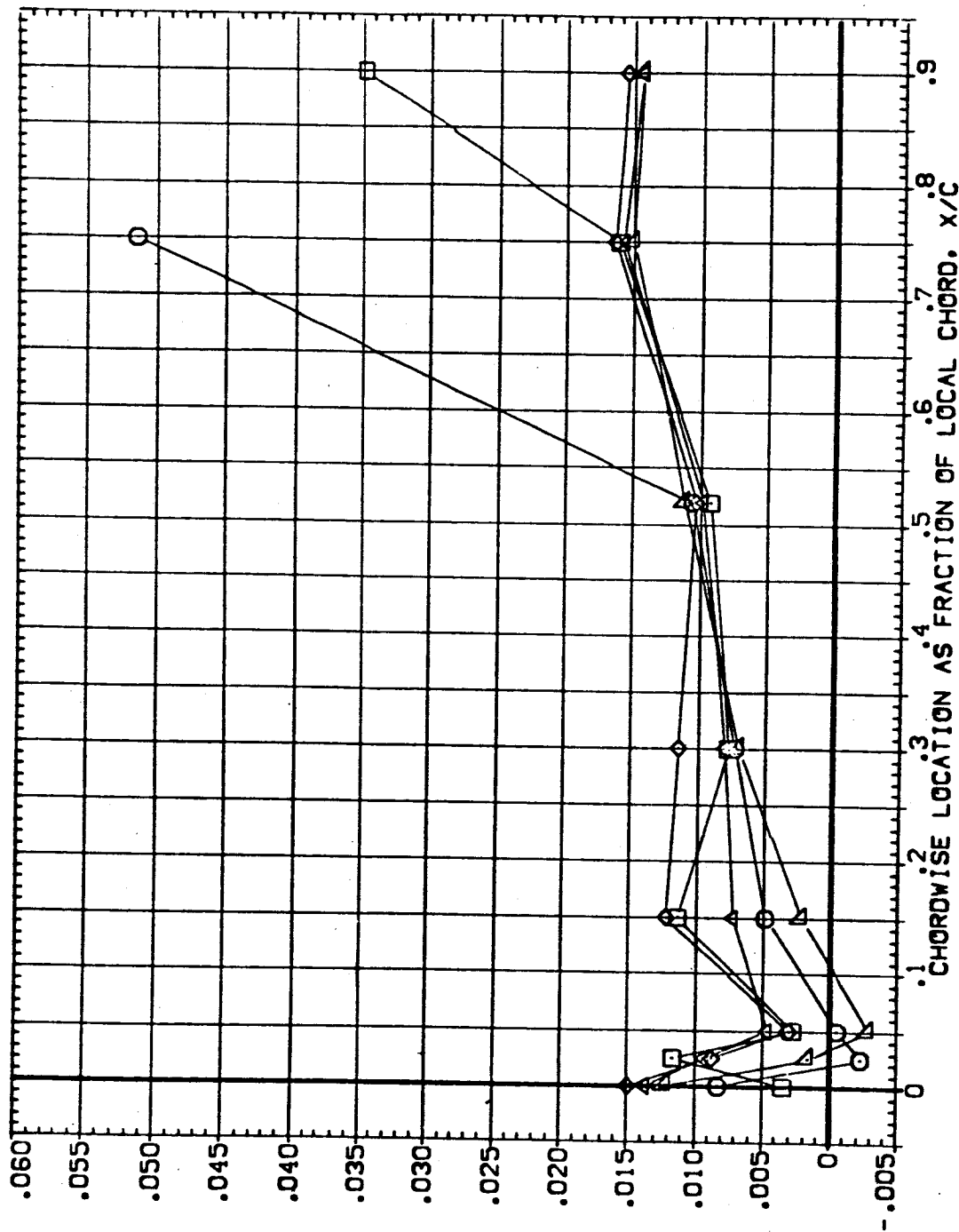


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
	.159	.000	.000	ELV-18	8.000	ELV-08	4.000
	.316			RUDER	.000	MACH	1.250
	.600			GIMBAL	1.000		
	.840						
	.925						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

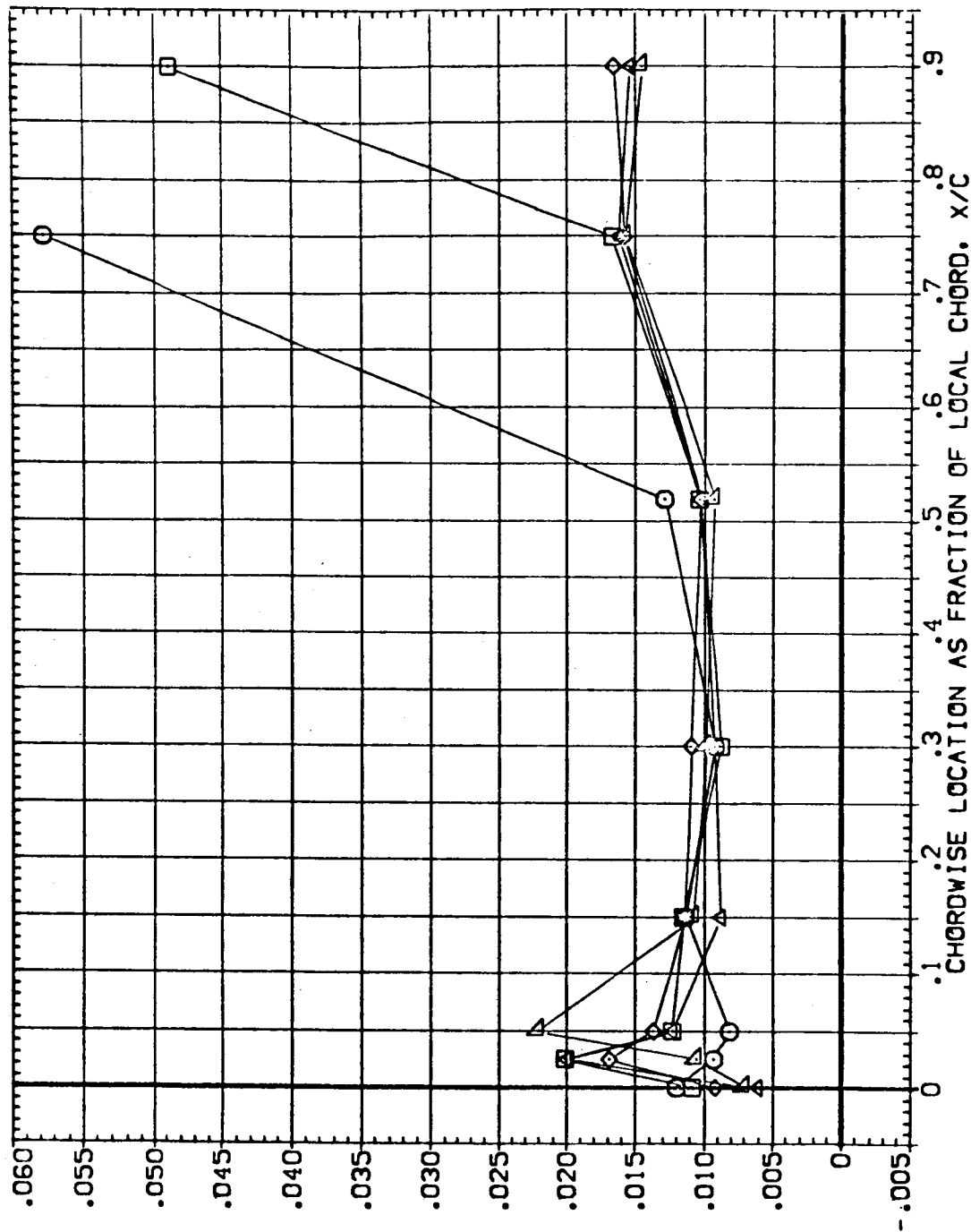


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (EEUV15)

SYMBOL
 ▽
 ◇
 □
 △

Z/BV
 .158
 .316
 .600
 .840
 .925

BETA
 .000

ALPHA
 4.000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

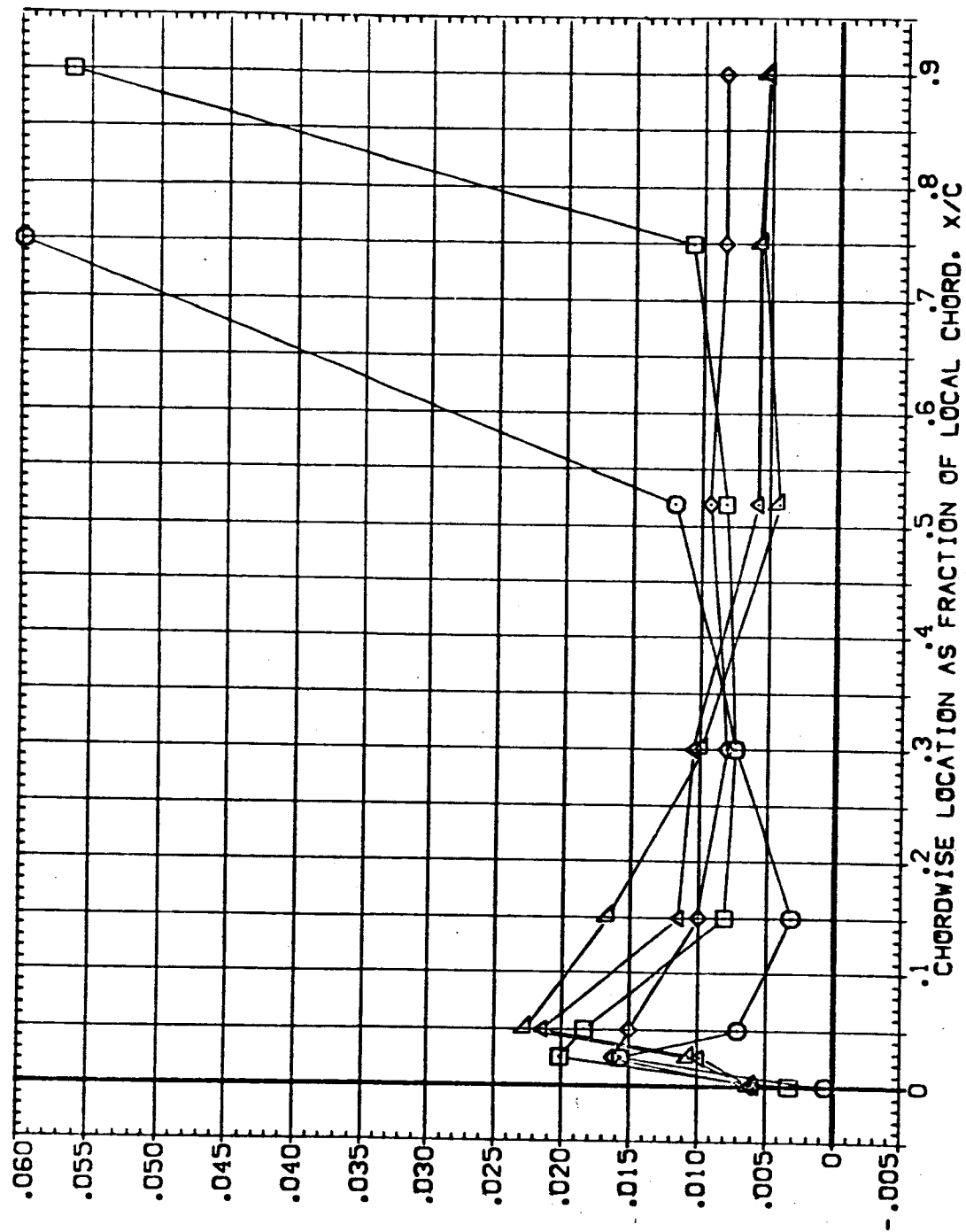


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-1B	8.000	ELV-08	4.000
○	.158	-1.000	.000	RUDER	.000	MACH	1.250
◇	.316			GIMBAL	1.000		
□	.600						
△	.840						
▽	.925						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

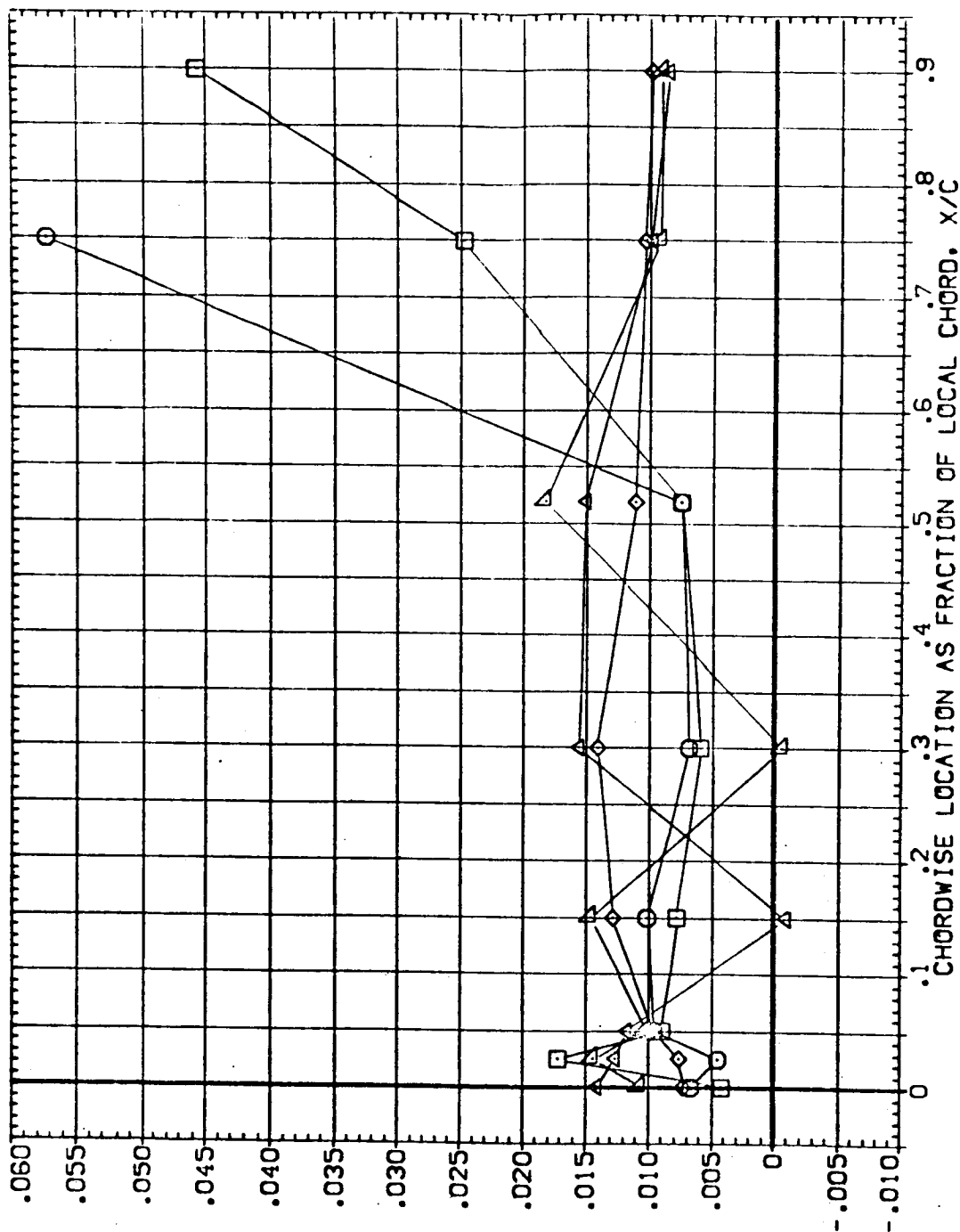
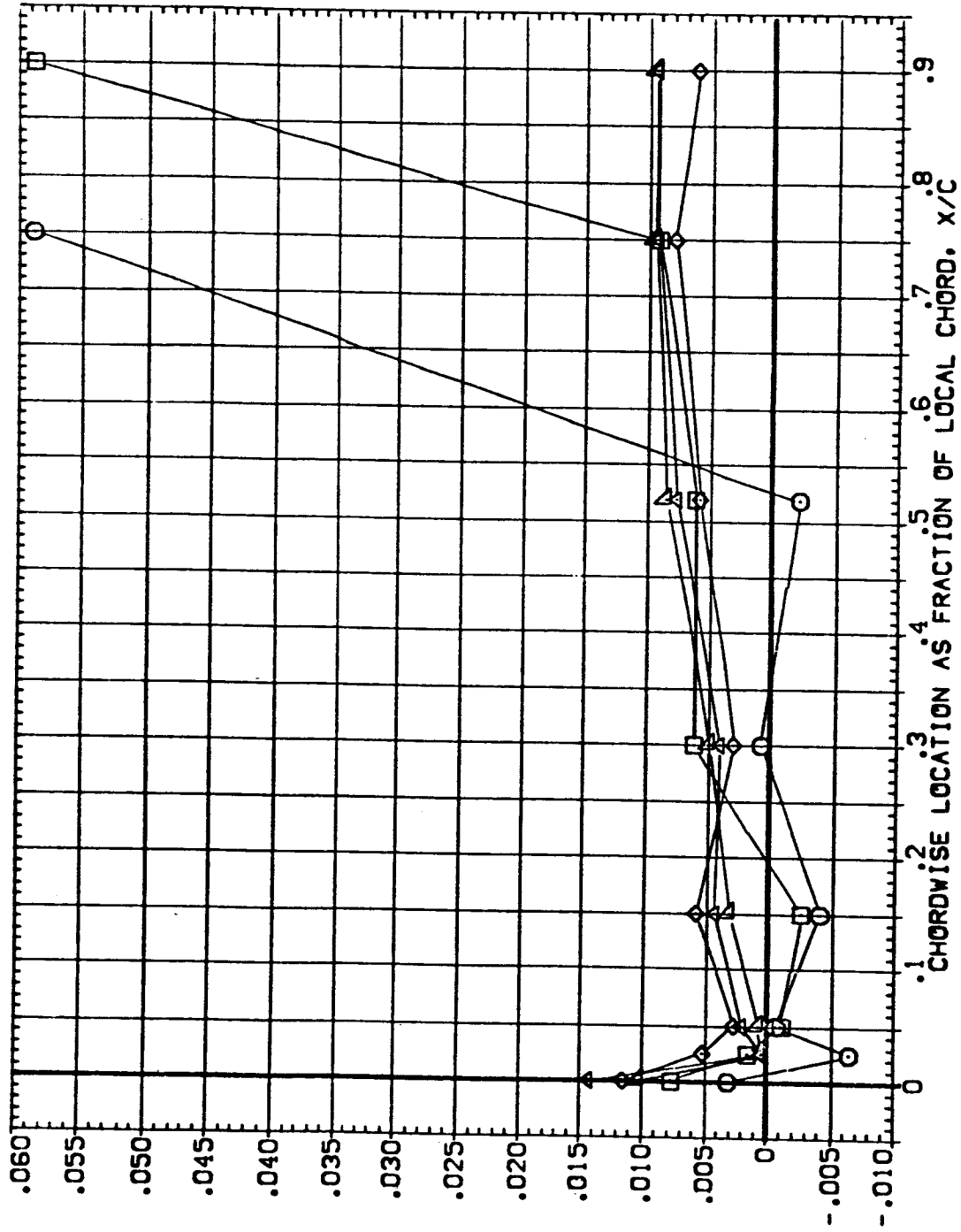


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (FEUV15)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
▽	.158	4.000	.000	RUDER	.000	1.000	
◇	.316			GIMBAL	1.000	1.250	
□	.600						
○	.840						
△	.925						



INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (EEUV16)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-IB	ELV-OB	ELV-OB	MACH
○	.158	.000	-4.000	8.000	.000	1.000	4.000
□	.316	.000	-4.000	8.000	.000	1.000	1.400
◇	.600	.000	-4.000	8.000	.000	1.000	1.400
▽	.840	.000	-4.000	8.000	.000	1.000	1.400
△	.925	.000	-4.000	8.000	.000	1.000	1.400

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

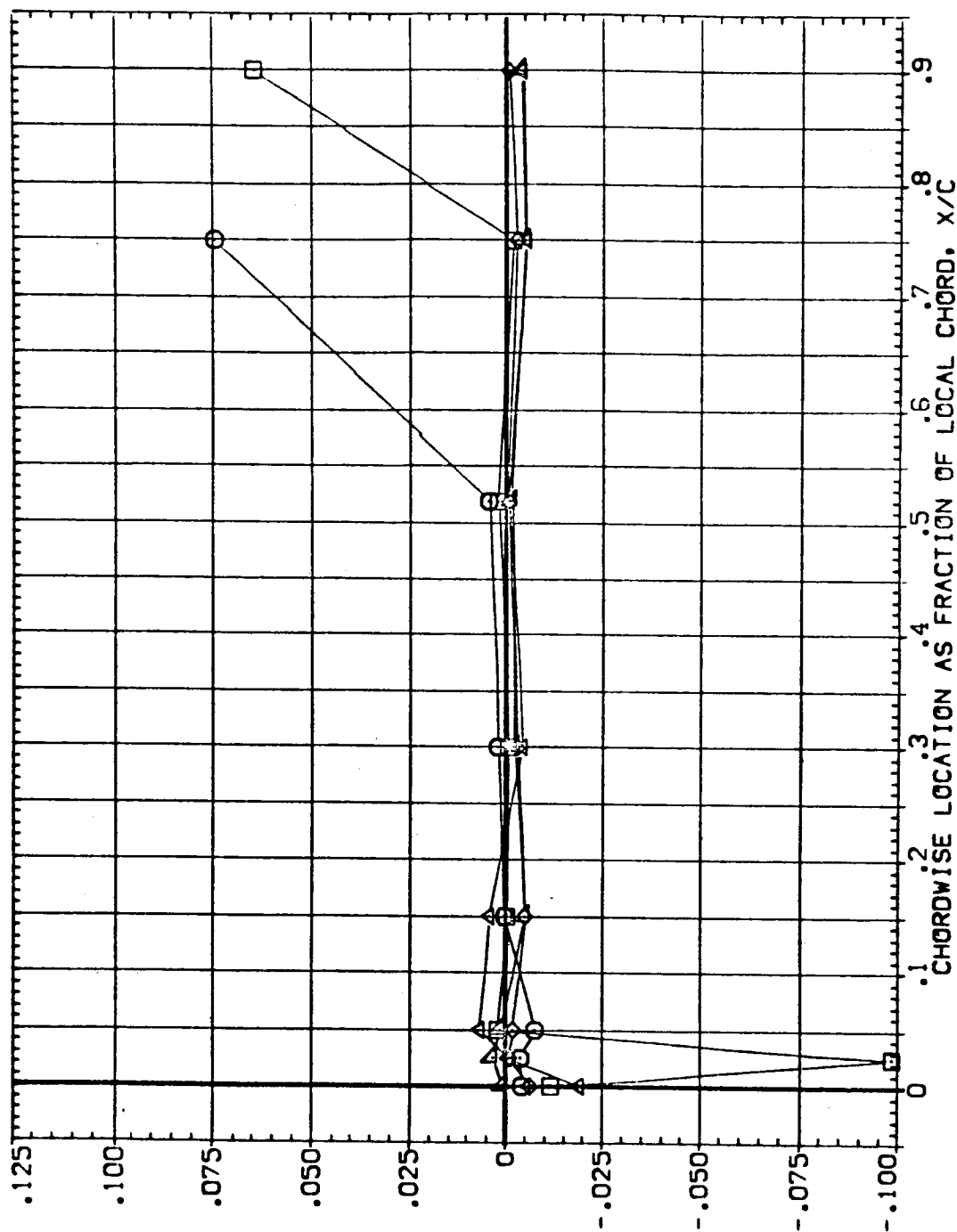


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (EEUV16)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
□	.150	.000	.000	RUDER	.000	MACH	1.400
◇	.316			GIMBAL	1.000		
△	.600						
▽	.840						
○	.925						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

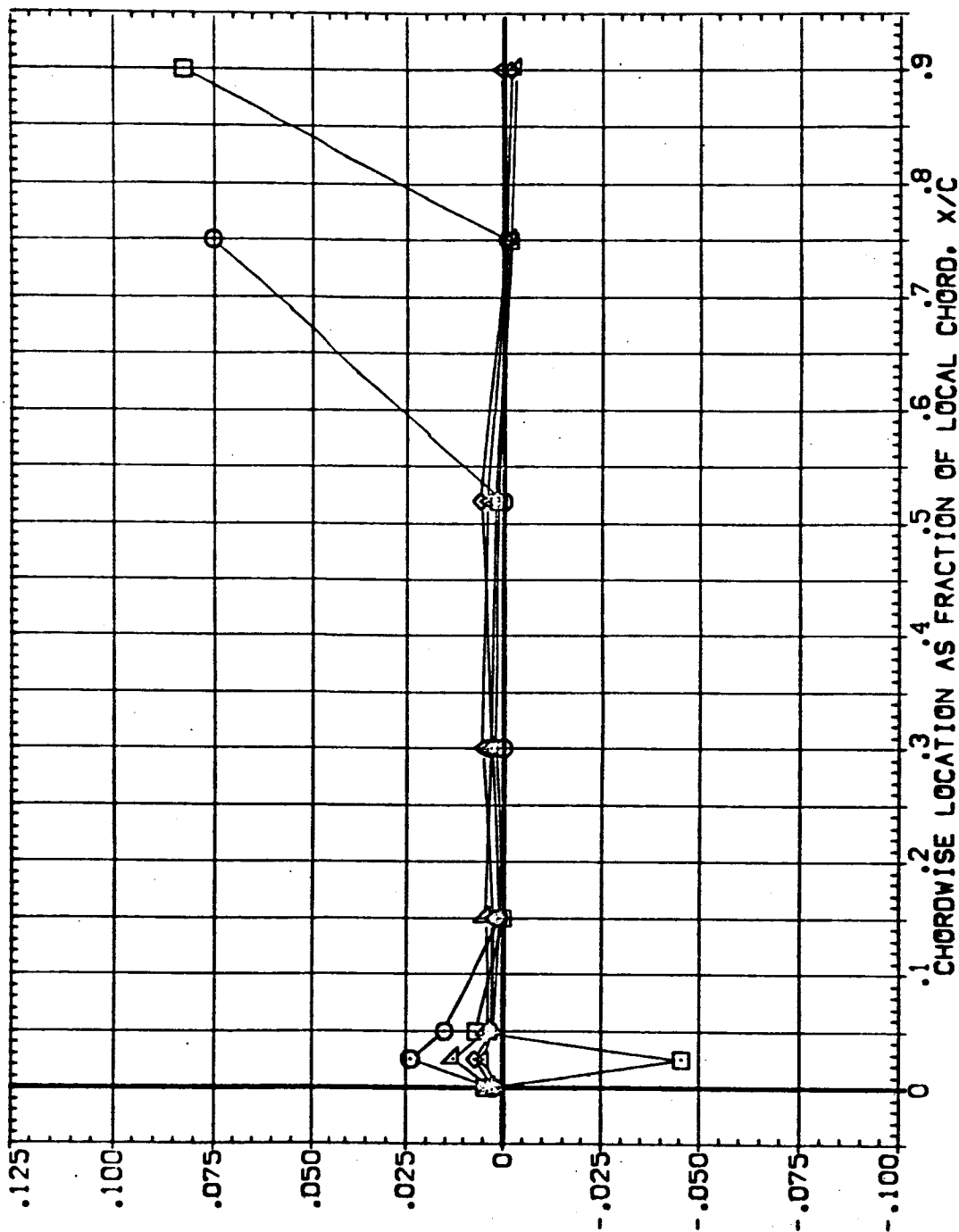


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL (EEUV16)

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-19	8.000	ELV-08	4.000
□	.158	.000	4.000	RUDDER	.000	MACH	1.400
◇	.316			GIMBAL	1.000		
△	.600						
▽	.840						
	.925						

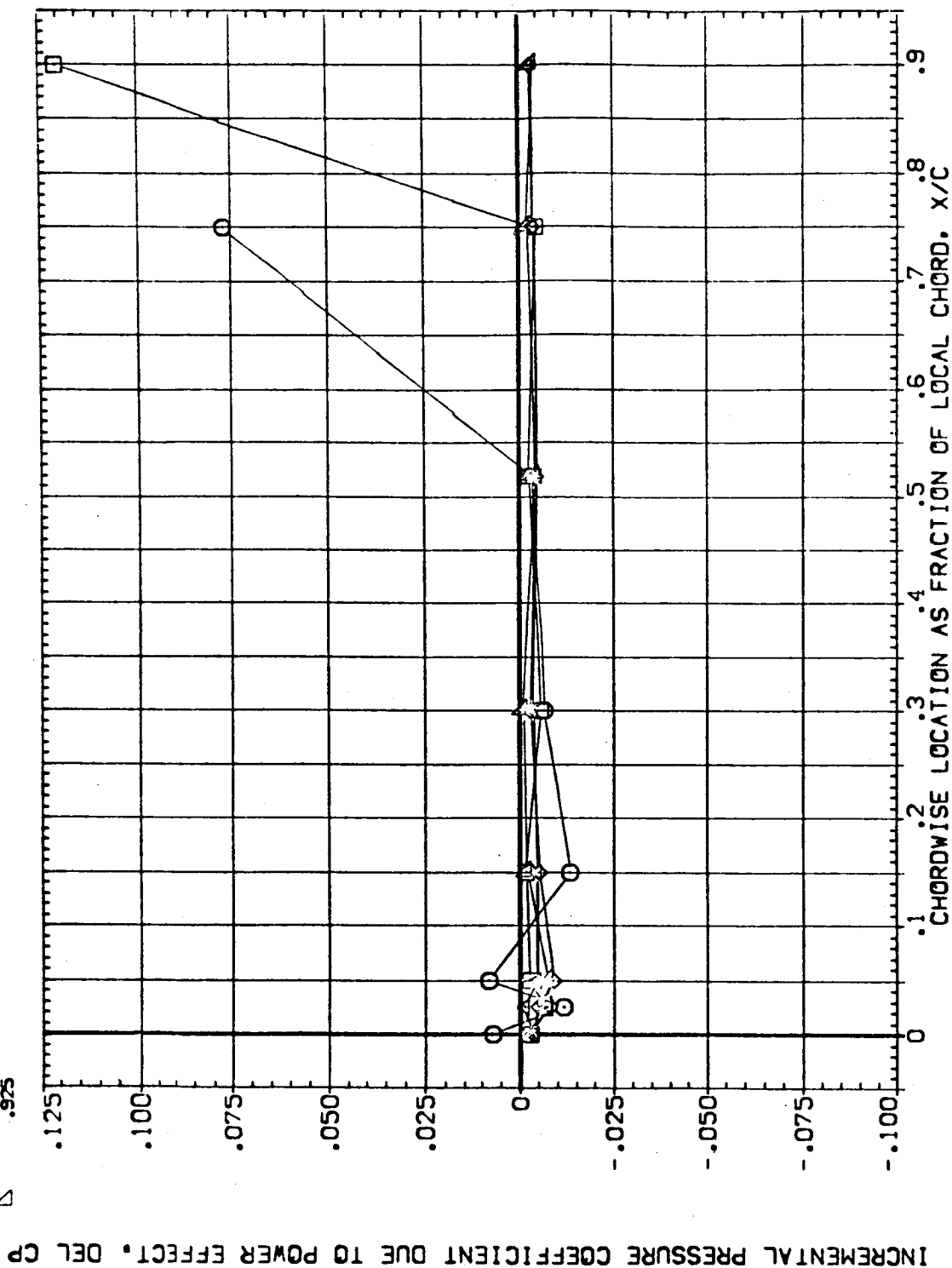


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF VERTICAL(FEUV16)

SYMBOL Z/BV BETA ALPHA

7	.158	-1.000	.000
>	.316		
◇	.600		
□	.840		
○	.925		

PARAMETRIC VALUES

ELV-18	8.000	ELV-08	4.000
RUDER	.000	MACH	1.400
GIMBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

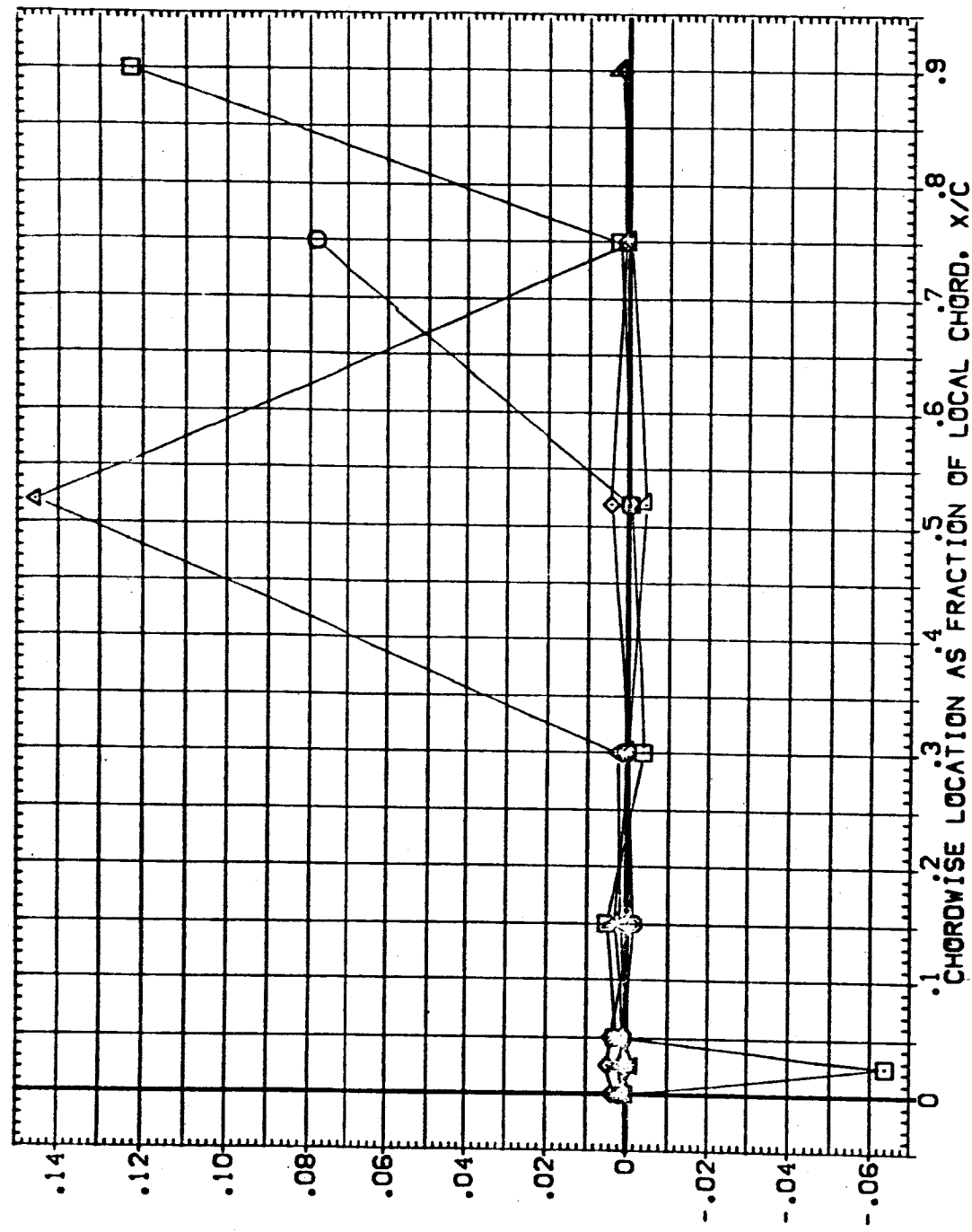


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

SYMBOL	Z/BV	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
◇	.158	4.000	.000		8.000		4.000
◇	.316			RUDER	.000		1.400
◇	.600			GIMBAL	1.000		
◇	.840						
◇	.975						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

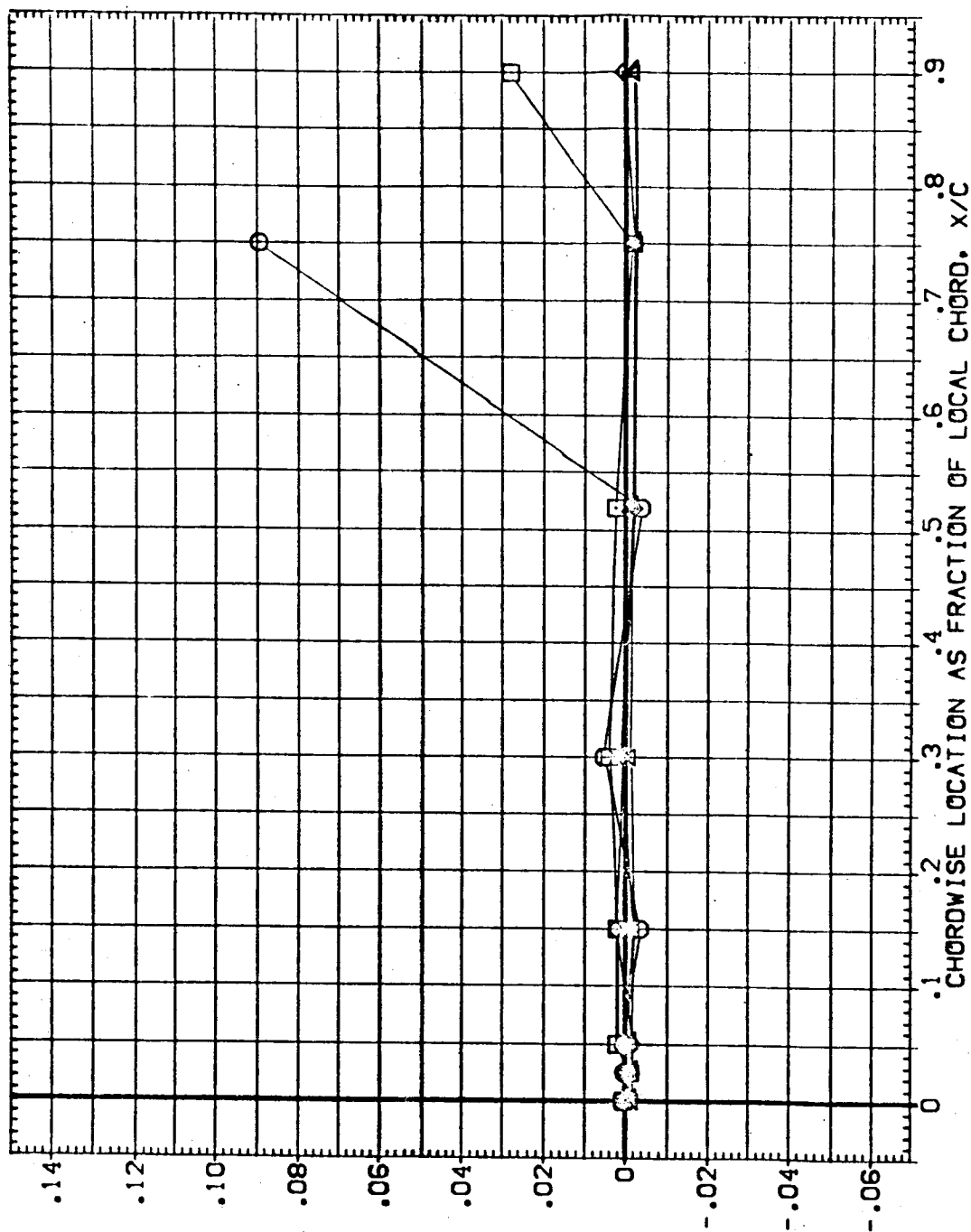


FIG. 101 VERTICAL TAIL DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SR8-OFF MPS-OFF EXT TANK(BEUTO1)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-C8	ELV-C8	MACH
○	.634	.000	-4.000	RUDER	.000	1.000	4.000
◇	.742			GIMBAL			.900
△	.851						
▽	.908						

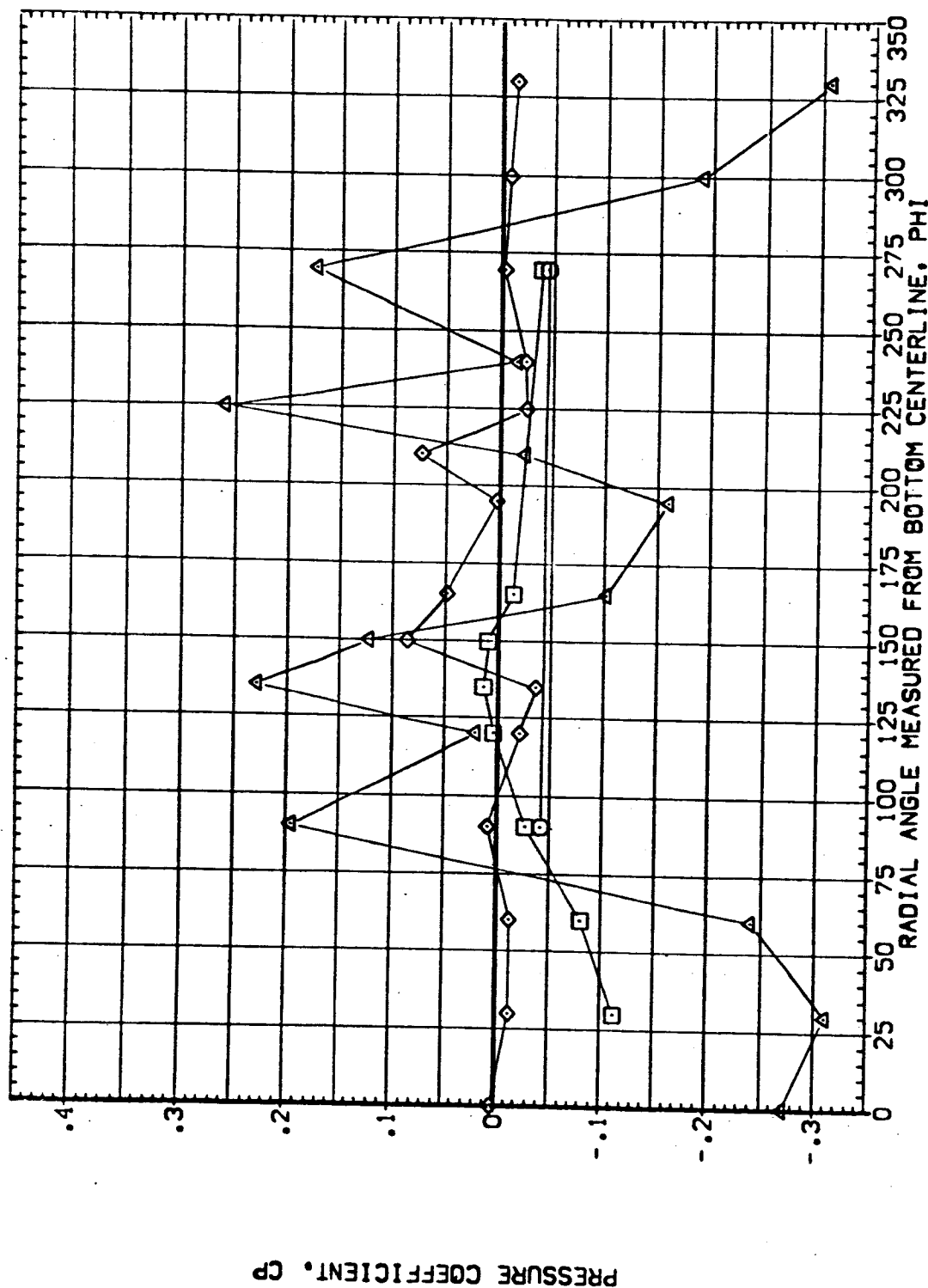


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK(BEUTO1)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-IB	ELV-OB	MACH	
△	.634	.000	.000	RUDER	.000	1.000	
□	.742			GIMBAL			
◇	.651						
▽	.936						

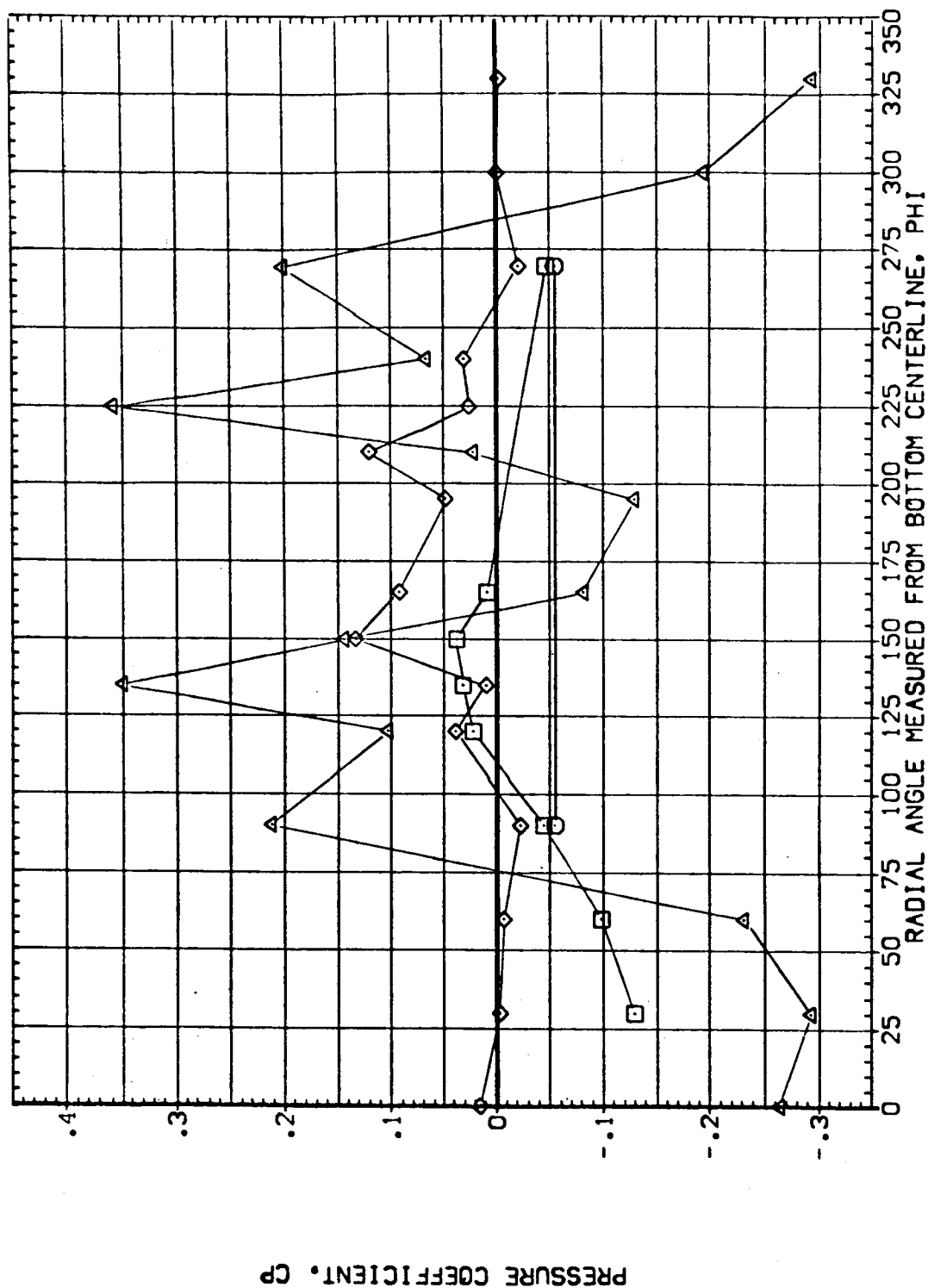


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK(BEUTO1)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	ELV-08
□	.634	.000	1.000	RUDER	.000	MACH	.900
◇	.742			GIMBAL	1.000		
△	.851						
△	.966						

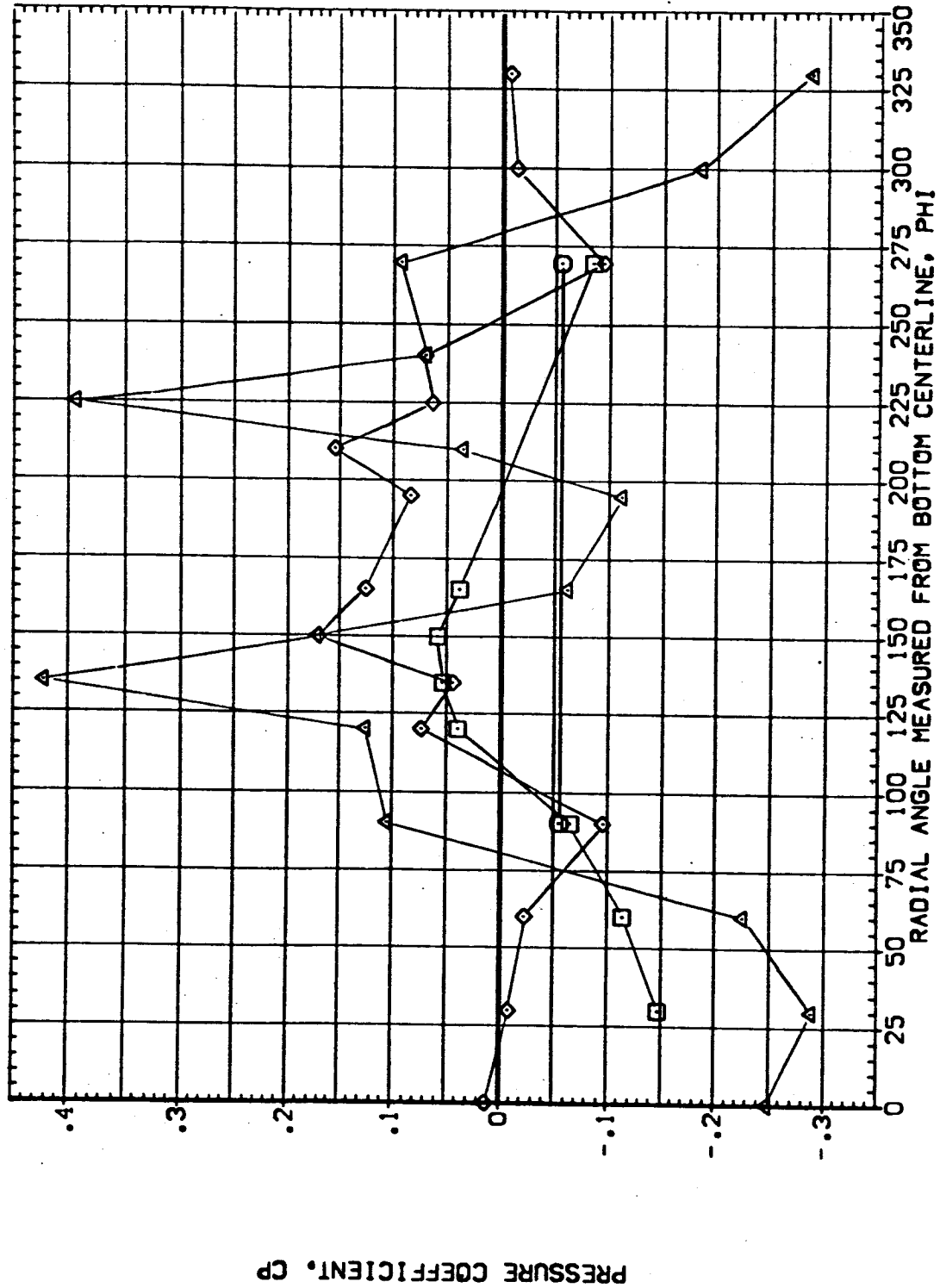


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL X/L BETA ALPHA

□ .634 -1.000 .000

◇ .742 .851 .986

PARAMETRIC VALUES

ELV-1B 8.000 ELV-08 4.000

RUDER .000 MACH .900

GIMBAL 1.000

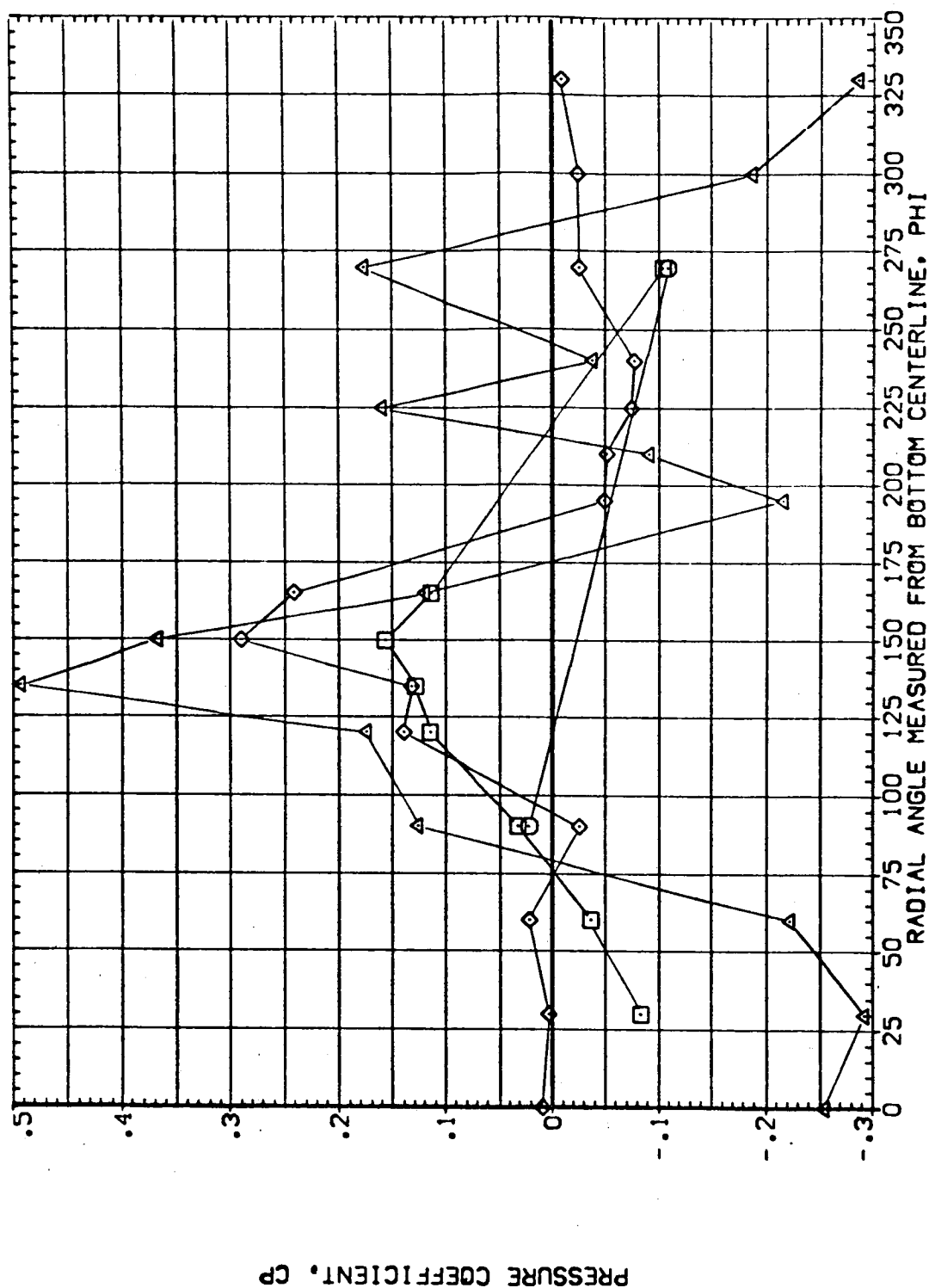


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK(CCEUTO1)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-09	ELV-09	ELV-09
◇	.534	1.000	.000	RUDDER	.000	MACH	1.000
□	.742			GIMBAL	1.000		.900
△	.851						
▽	.986						

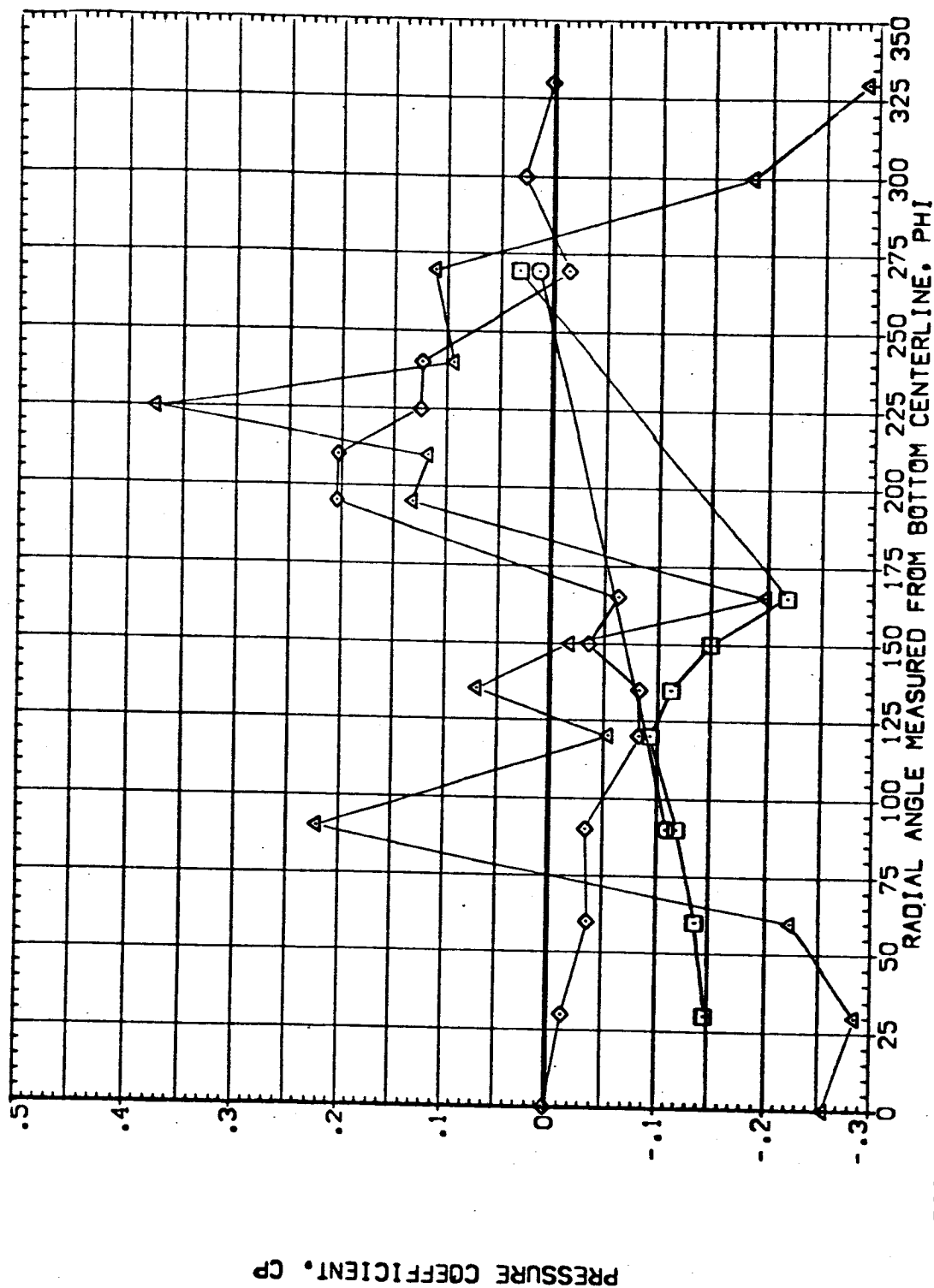


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL X/L BETA ALPHA

○ .634 .000 -1.000

□ .742 .000 -1.000

◇ .851 .000 -1.000

△ .906 .000 -1.000

PARAMETRIC VALUES

ELV-19 8.000 ELV-09 1.000

RUDER .000 MACH 1.100

GIMBAL 1.000

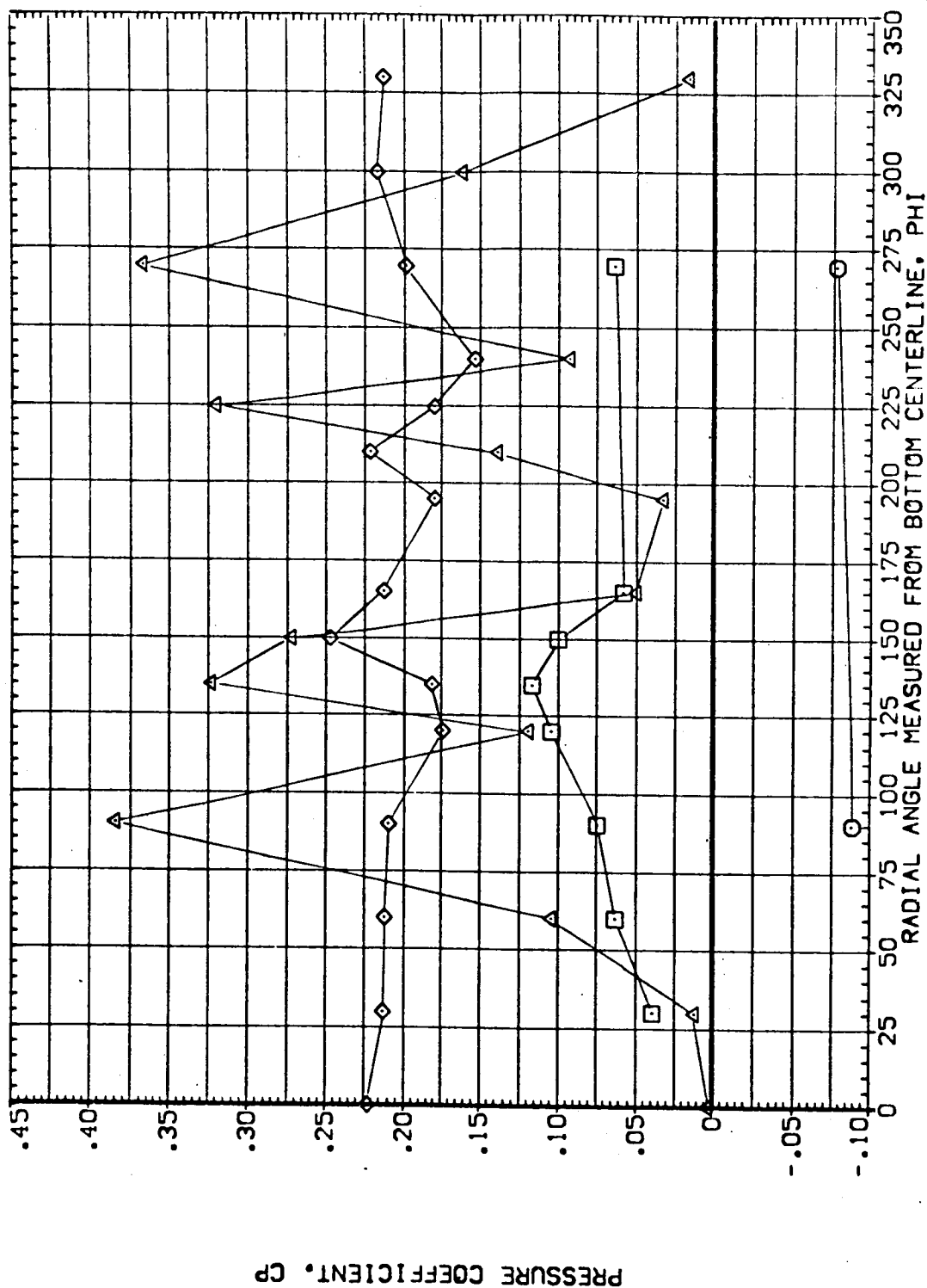


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK(BEUTO2)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES
○	.634	.000	.000	ELV-1B 8.000 ELV-08 4.000
□	.742	.000	.000	RUDDER .000 MACH 1.100
◇	.851	.000	.000	GIMBAL 1.000
△	.986	.000	.000	

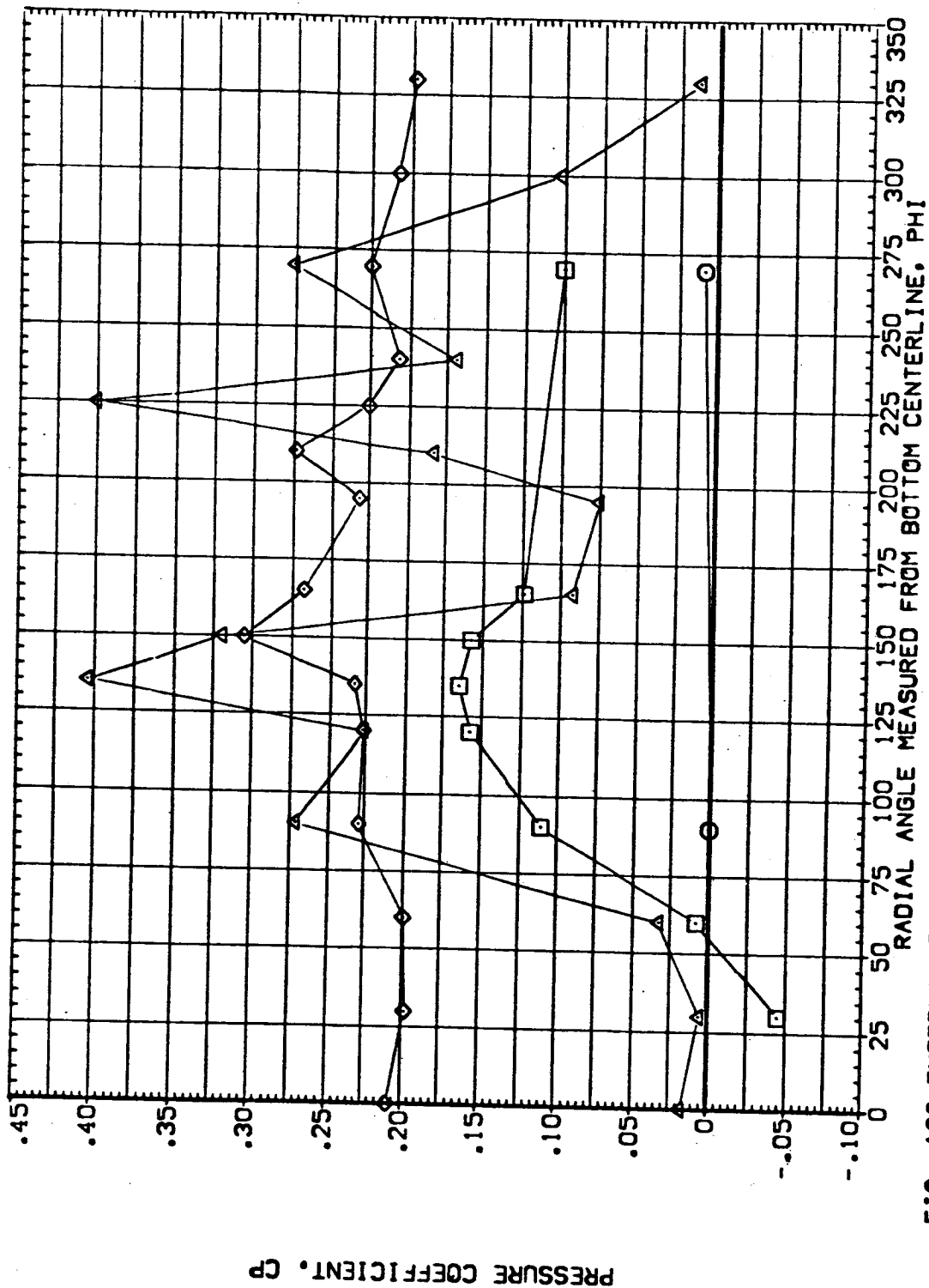


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-OB	4.000	
○	.634	.000	4.000	RUDER	.000	MACH	1.100
□	.742			GINBAL	1.000		
◇	.851						
△	.986						

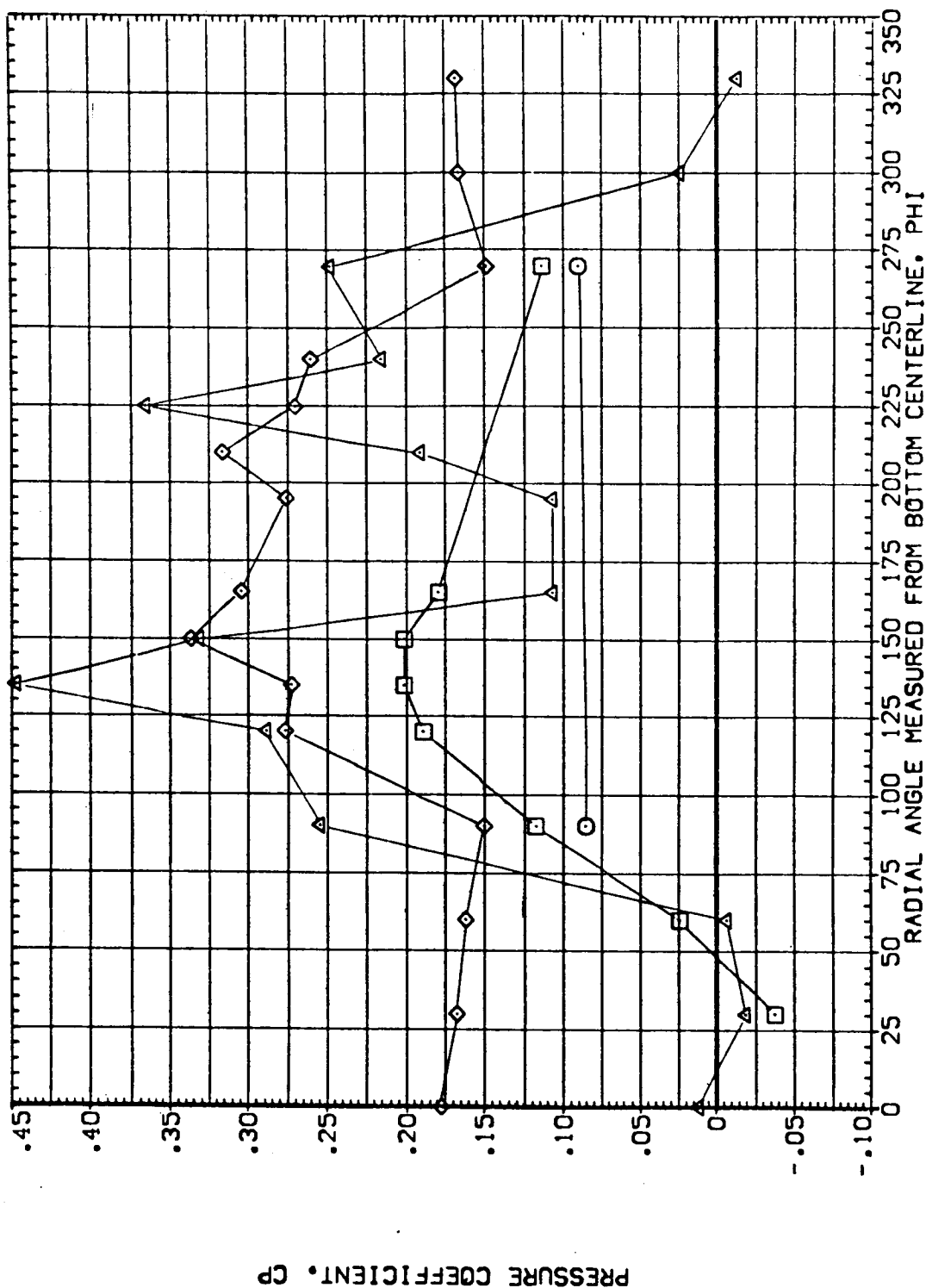


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK(CCEUT02)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.634	-1.000	.000	RUDDER	.000	1.000	1.000
□	.742			GINBAL			
◇	.851						
△	.986						

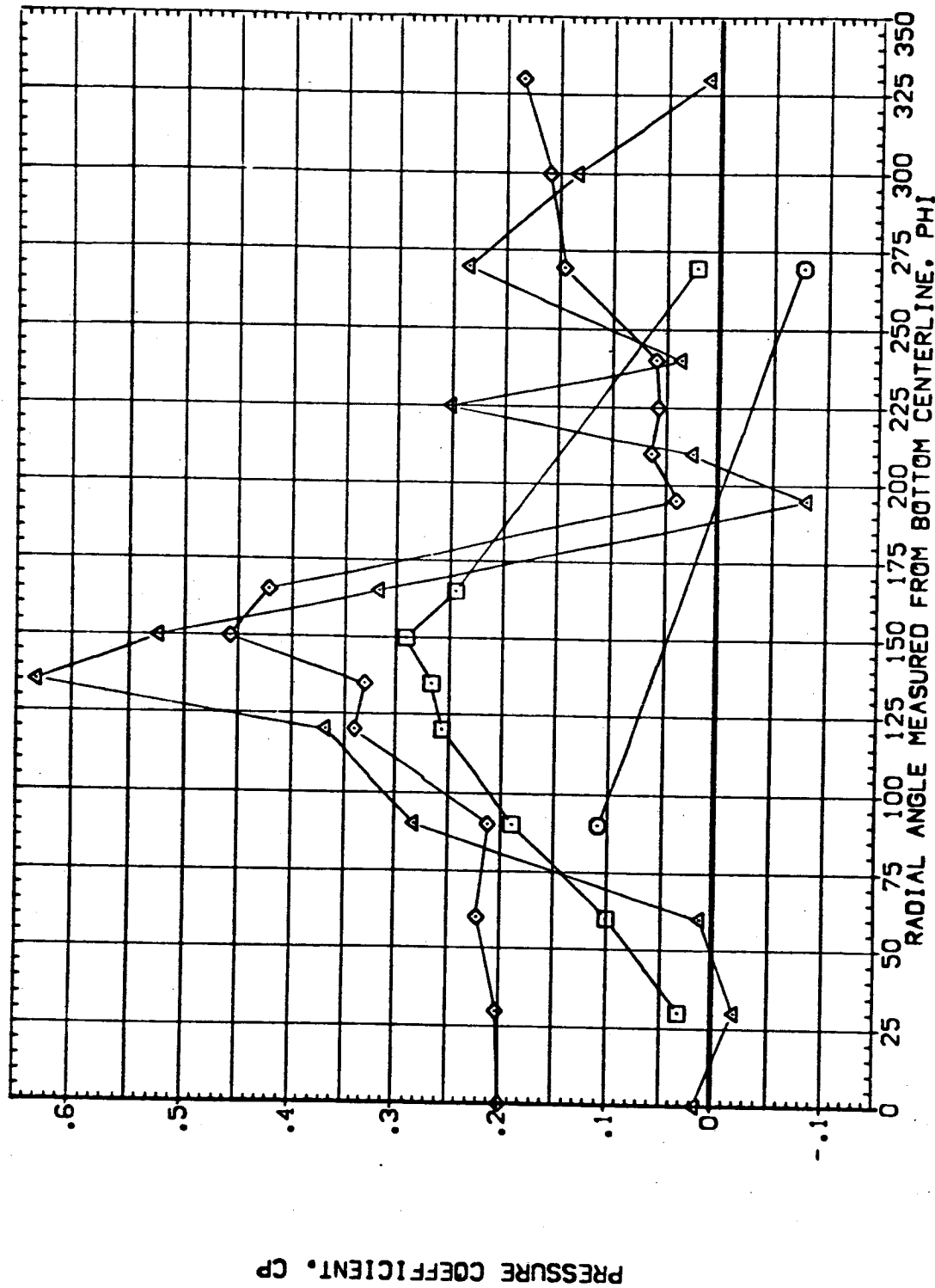


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES
○	.634	4.000	.000	ELV-18 8.000 ELV-08 4.000
◇	.742			RUDER .000 MACH 1.100
△	.851			GIMBAL 1.000
	.986			

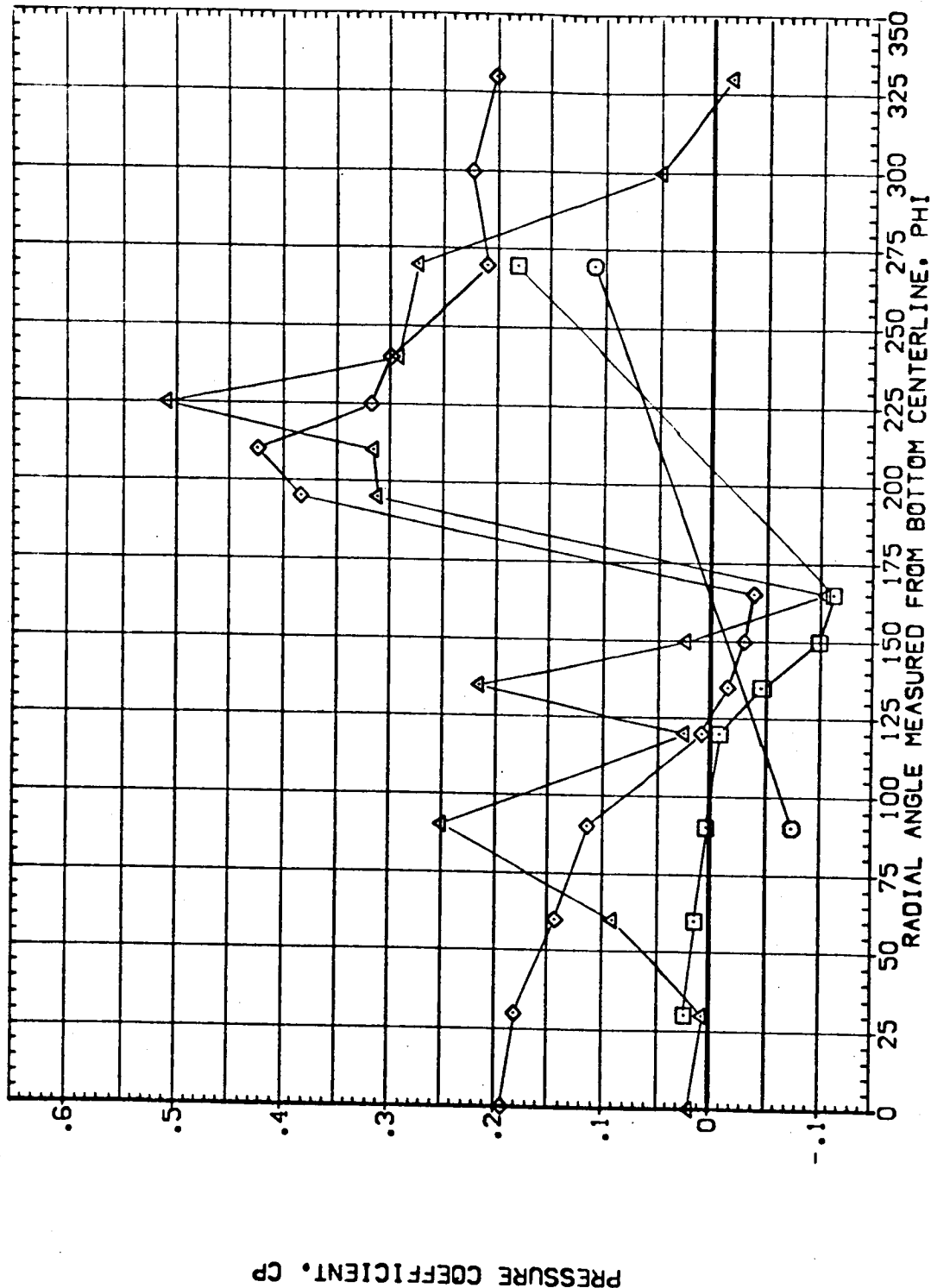


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK (BEUTO3)

SYMBOL	X/L	BETA	ALPHA	ELV-18	ELV-08	ELV-08	ELV-08
	.634	.000	-4.000	RUEER	.000	HACH	1.000
	.742			GIMBAL	1.000		1.250
	.851						
	.906						

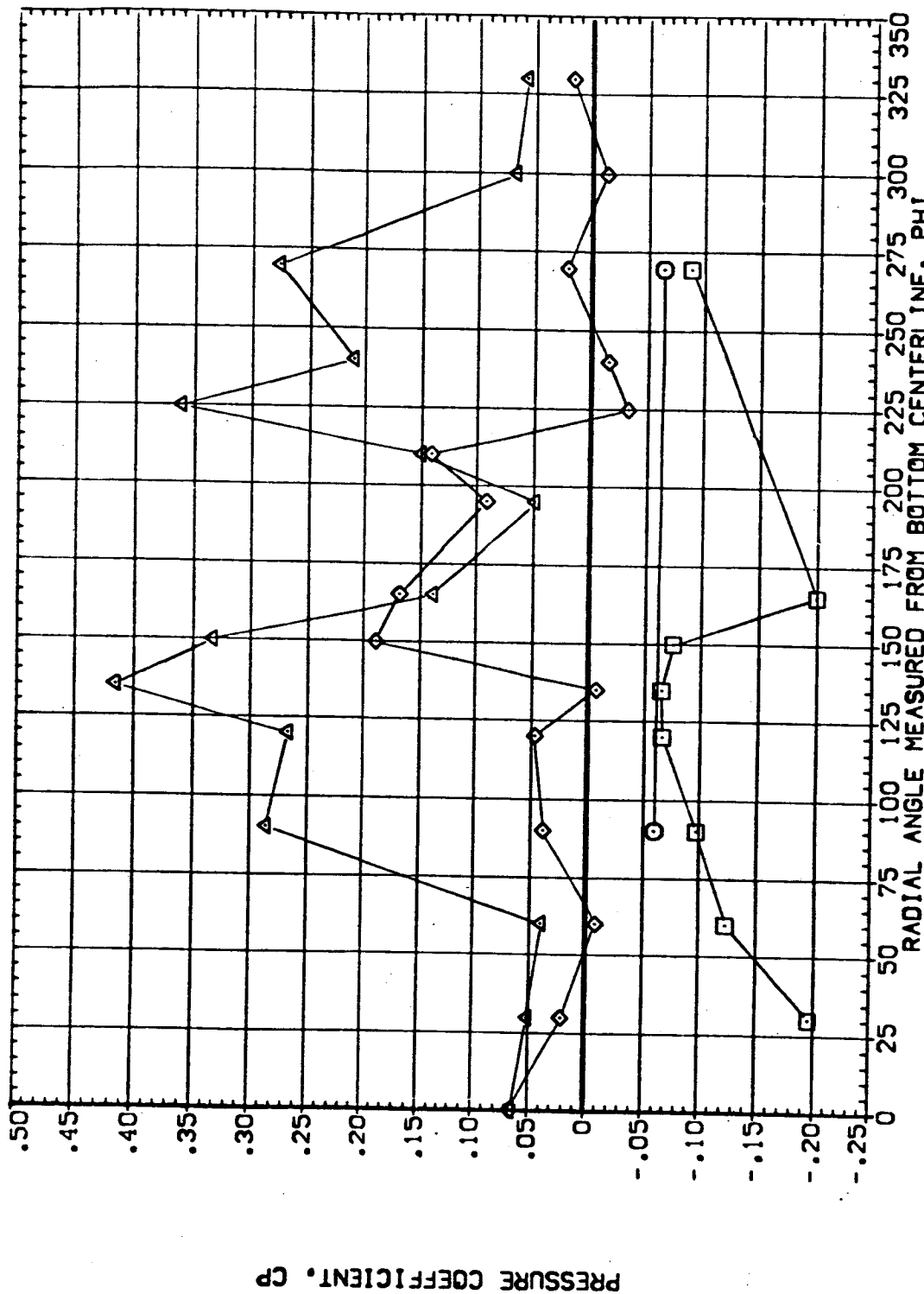


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.634	.000	.000	RUDER	.000	MACH	1.250
□	.742			GIMBAL	1.000		
◇	.861						
△	.986						

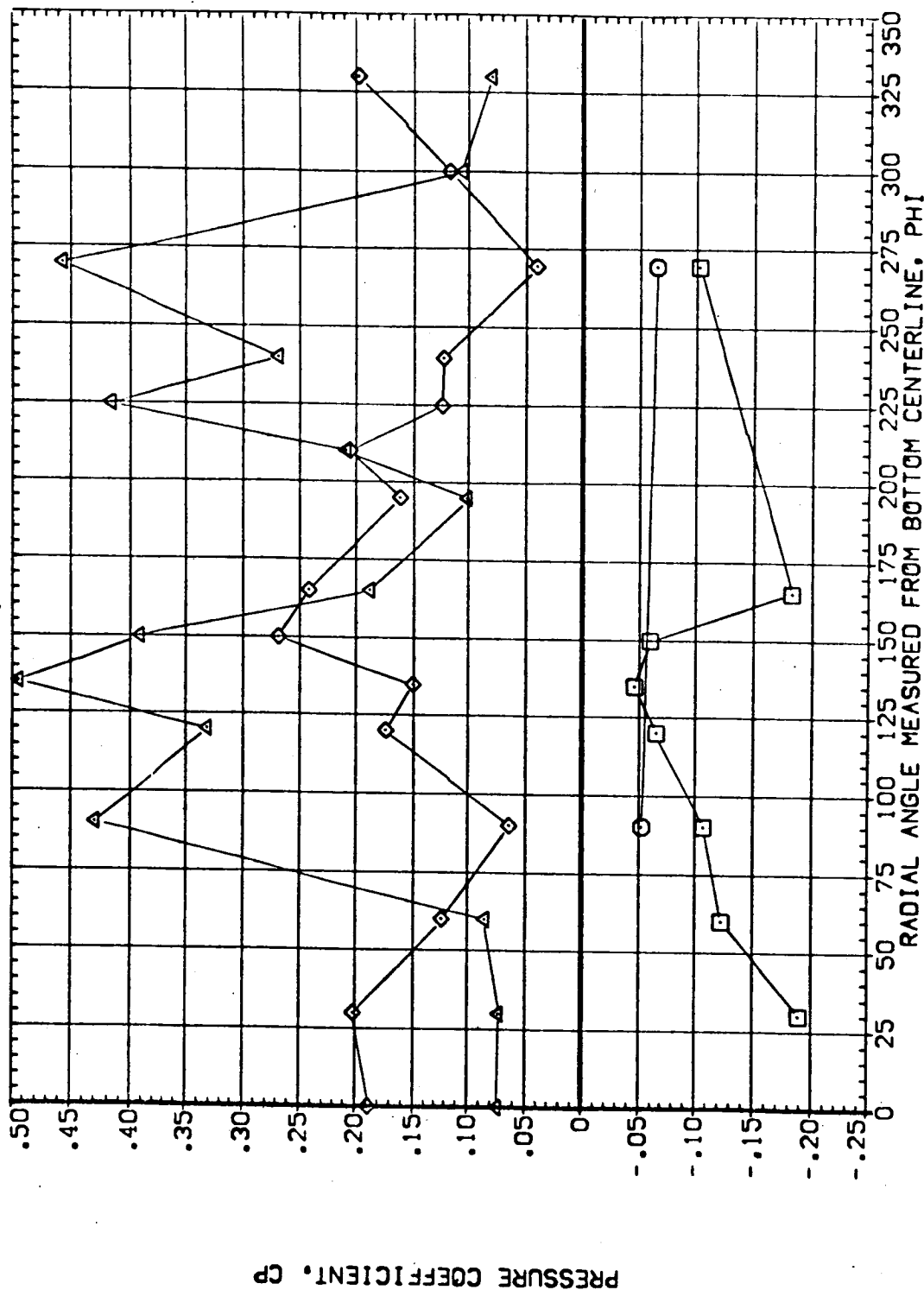


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK (BEUT03)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
◇	.634	.000	4.000	RUDER	.000	MACH	1.250
□	.742			GIMBAL	1.000		
△	.651						
▽	.986						

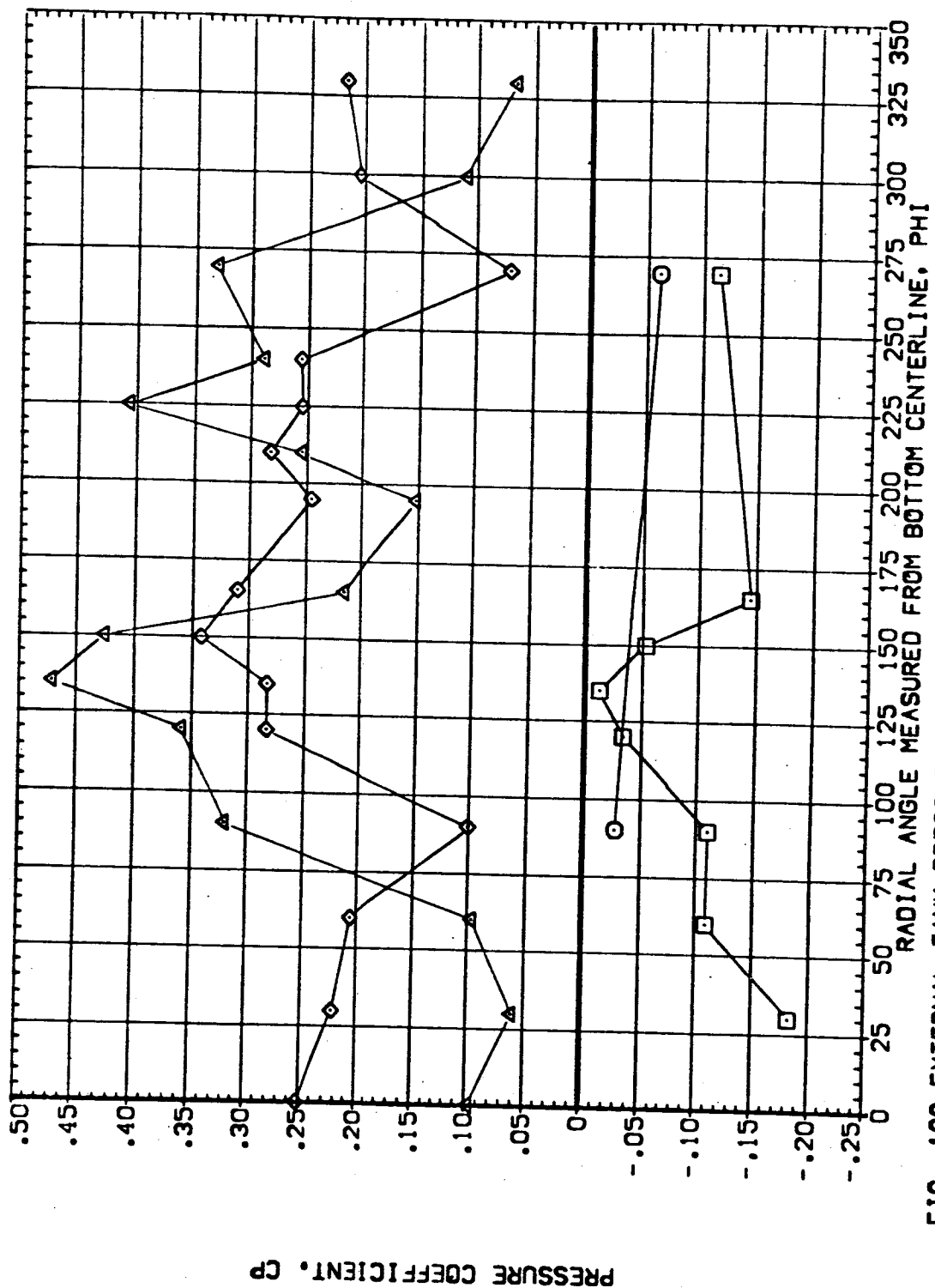


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.634	-4.000	.000	8.000	1.000	4.000	
□	.742			RUDDER		1.250	
◇	.851			GIMBAL			
△	.986						

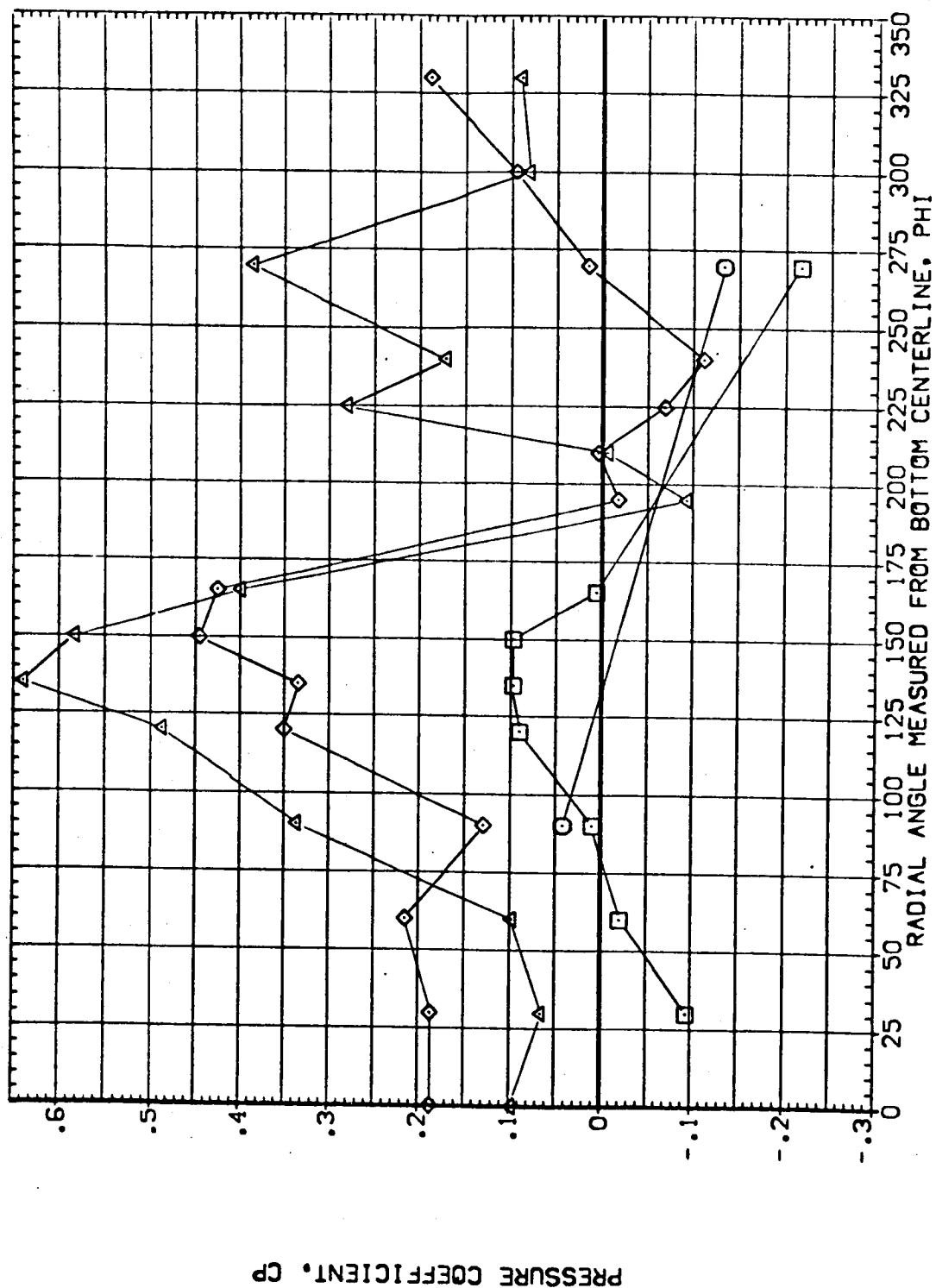


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-014IA19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK (CEUTO3)

SYMBOL
 ○ □ ◇ △

X/L BETA ALPHA
 .634 1.000 .000
 .742
 .851
 .936

PARAMETRIC VALUES
 ELV-18 9.000 ELV-08 4.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

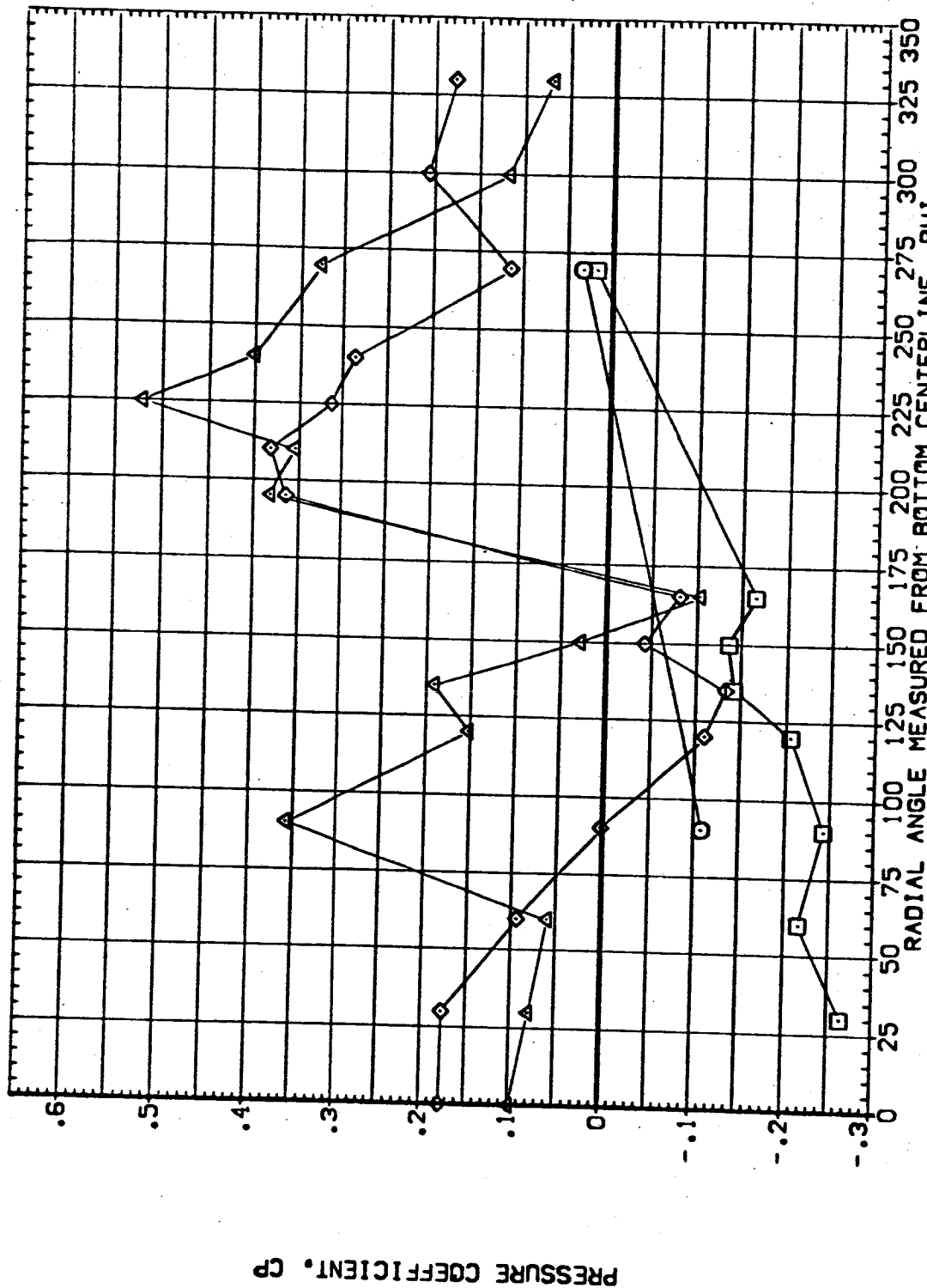


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-IB	ELV-OB	ELV-OB	MACH
□	.634	.000	-4.000	RUDER	.000	1.000	1.000
◇	.742			GIMBAL	1.000		
△	.851						
▽	.906						

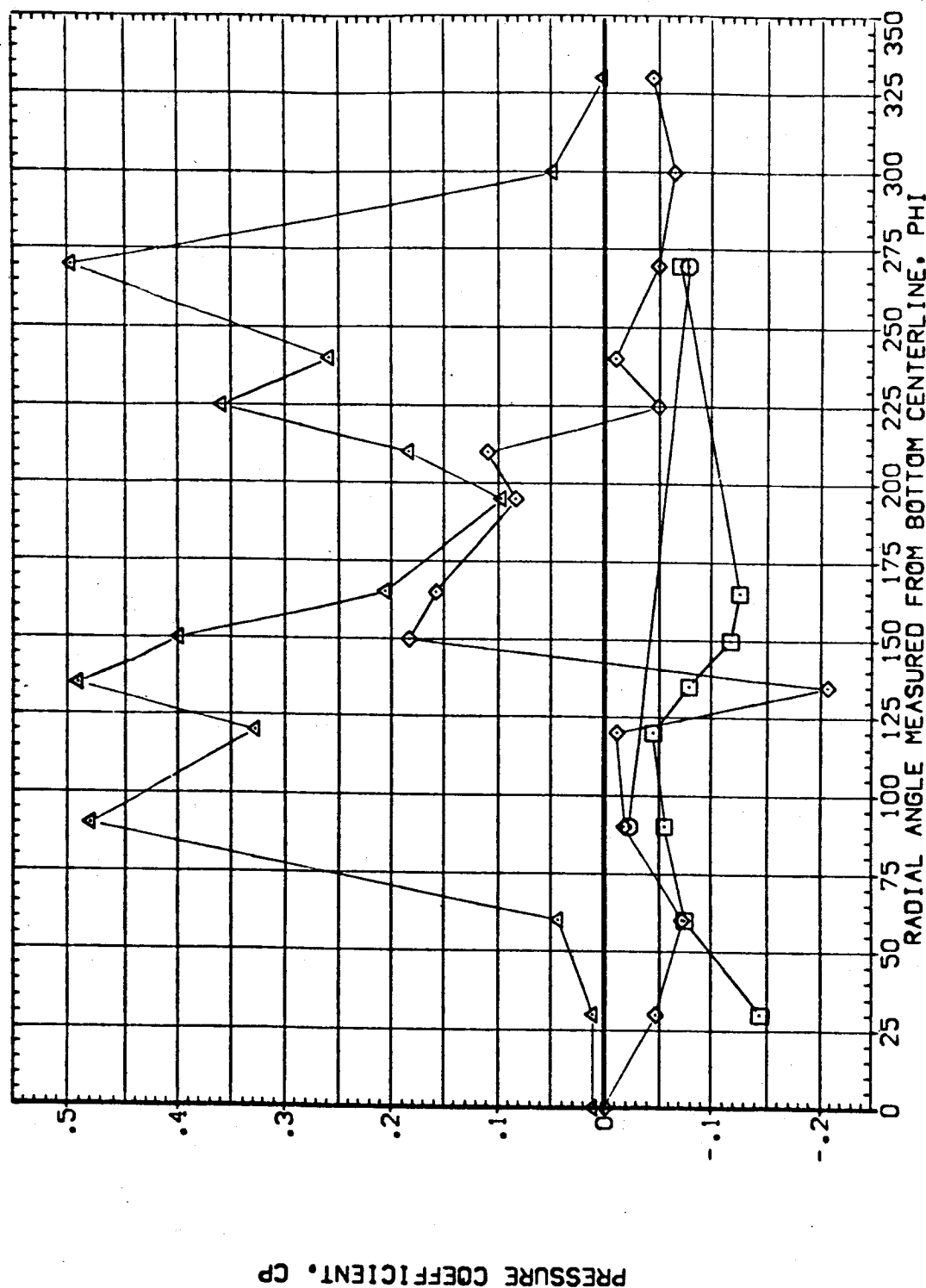


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK(BEUTO4)

SYMBOL X/L BETA ALPHA

○	.634	.000	.000
□	.742	.000	.000
◇	.851	.000	.000
△	.986	.000	.000

PARAMETRIC VALUES

ELV-18	8.000	ELV-09	4.000
RUDDER	.000	MACH	1.400
GIMBAL	1.000		

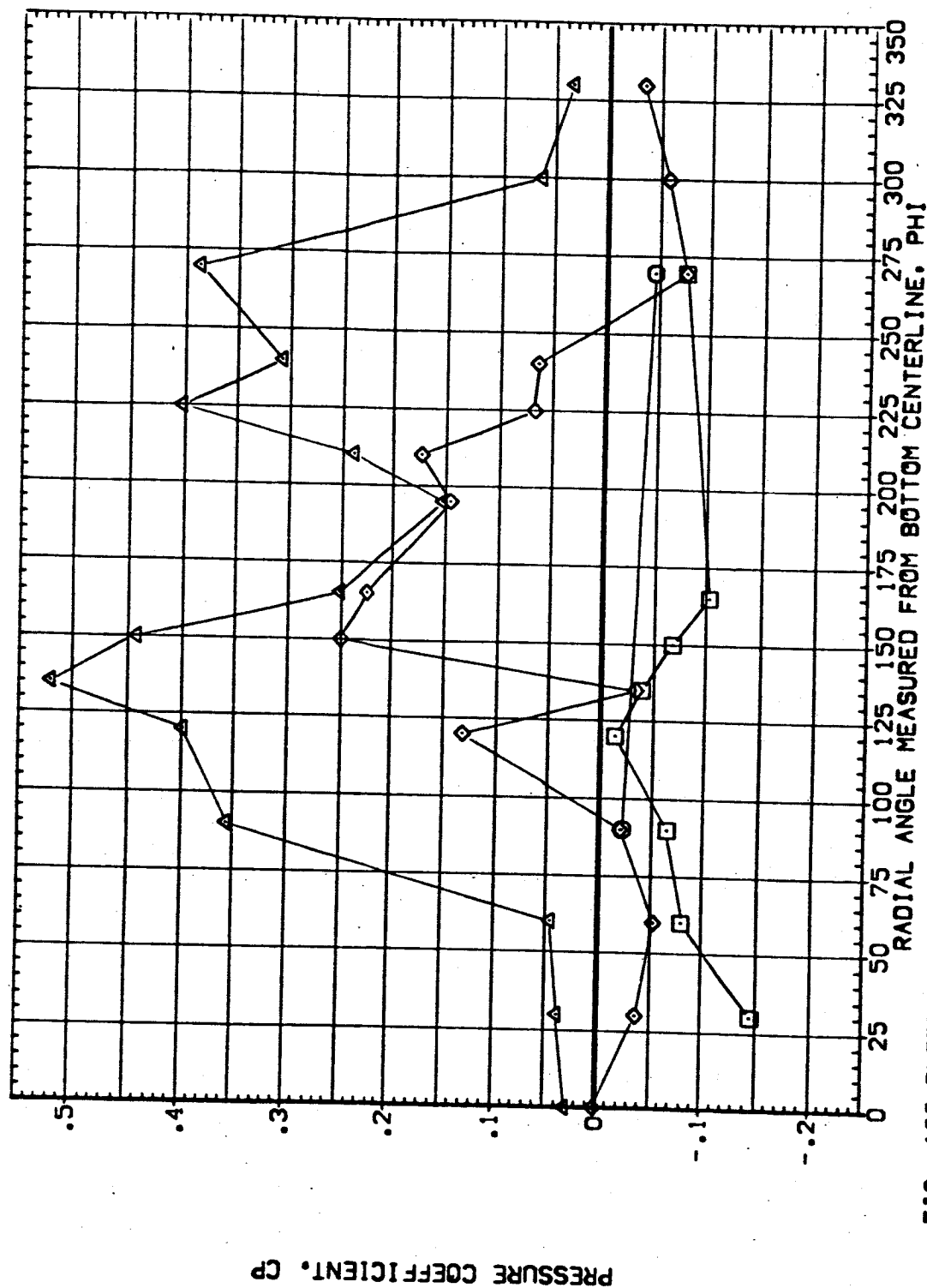


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK (BEUTO4)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-19	ELV-08	MACH	
○	.634	.000	1.000	RUDER	.000	1.400	
□	.742			GIMBAL	1.000		
◇	.851						
△	.966						

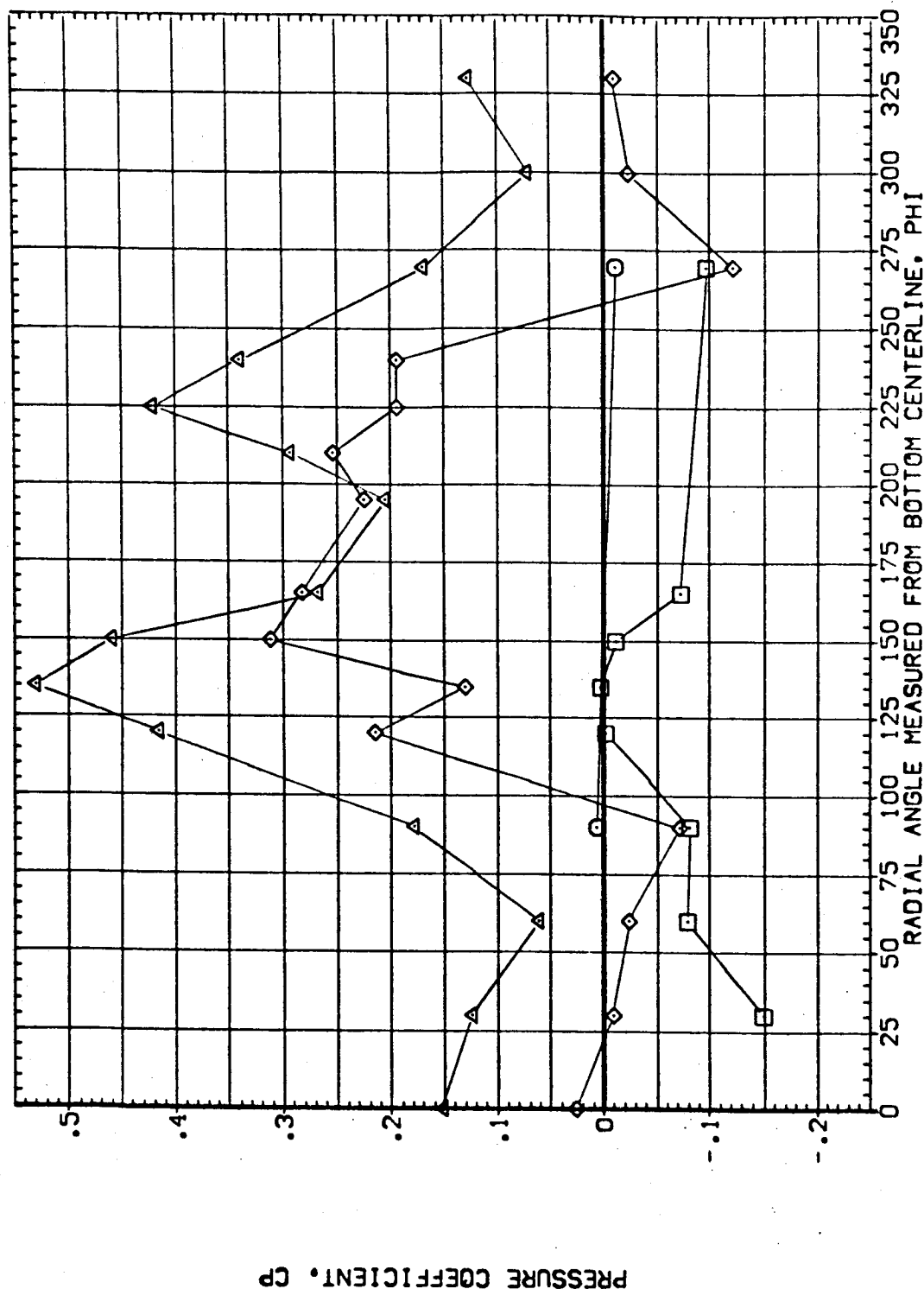


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF EXT TANK (CEUTO4)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	ELV-08
□	.634	-4.000	.000	8.000	8.000	8.000	8.000
◇	.742			.000	.000	.000	.000
△	.851			1.000	1.000	1.000	1.000
◇	.906						

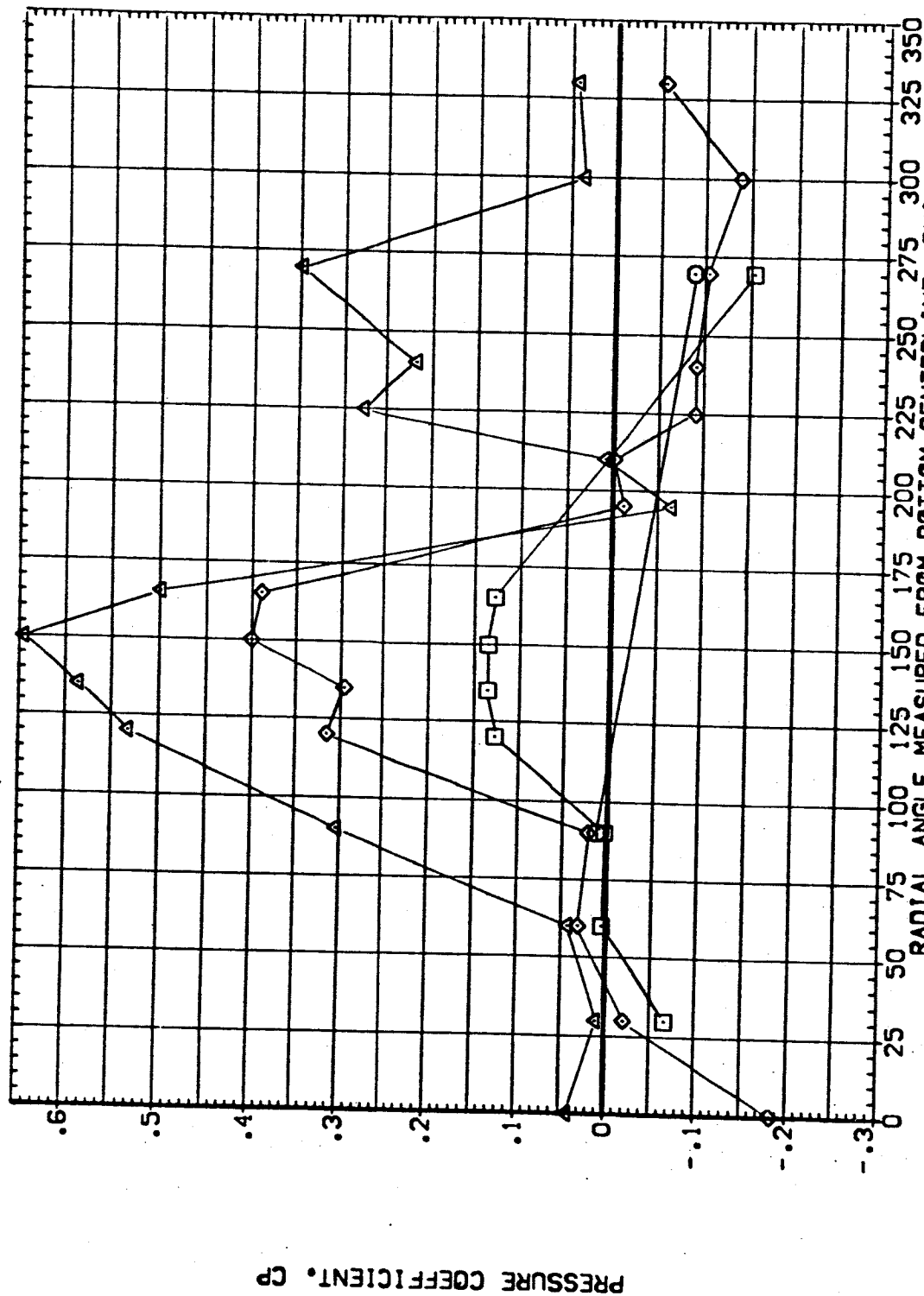


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11 011A19 0TS+STRUT SRB-OFF MPS-OFF EXT TANK(CEUTO4)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.634	4.000	.000	RUDDER	.000	1.000	4.000
□	.742			GIMBAL	1.000		1.400
◇	.851						
△	.986						

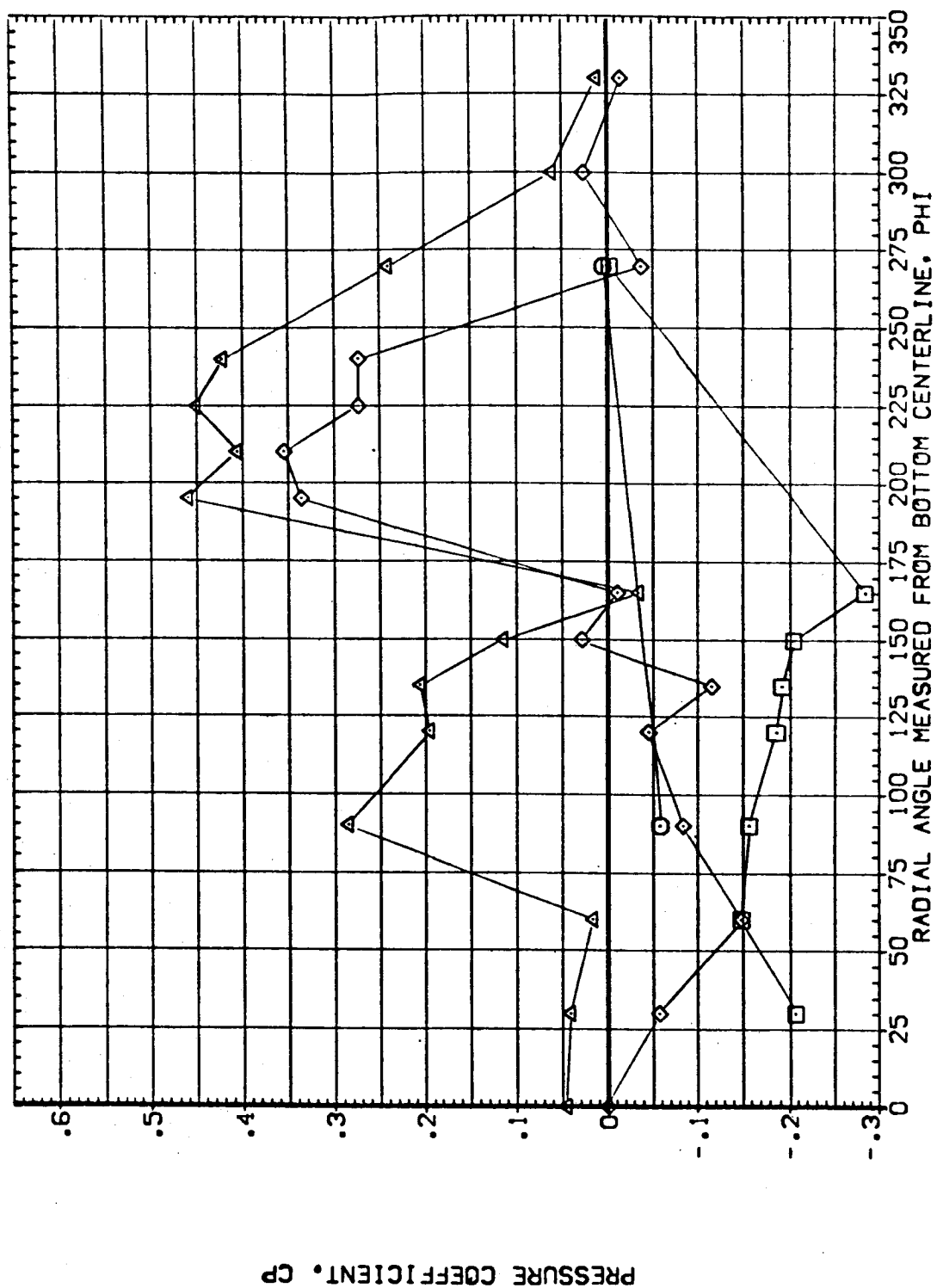


FIG. 102 EXTERNAL TANK PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK (EEUT05)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
□	.634	.000	-4.000	RUDDER	.000	1.000	.900
◇	.742			01H8AL			
△	.851						
▽	.906						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

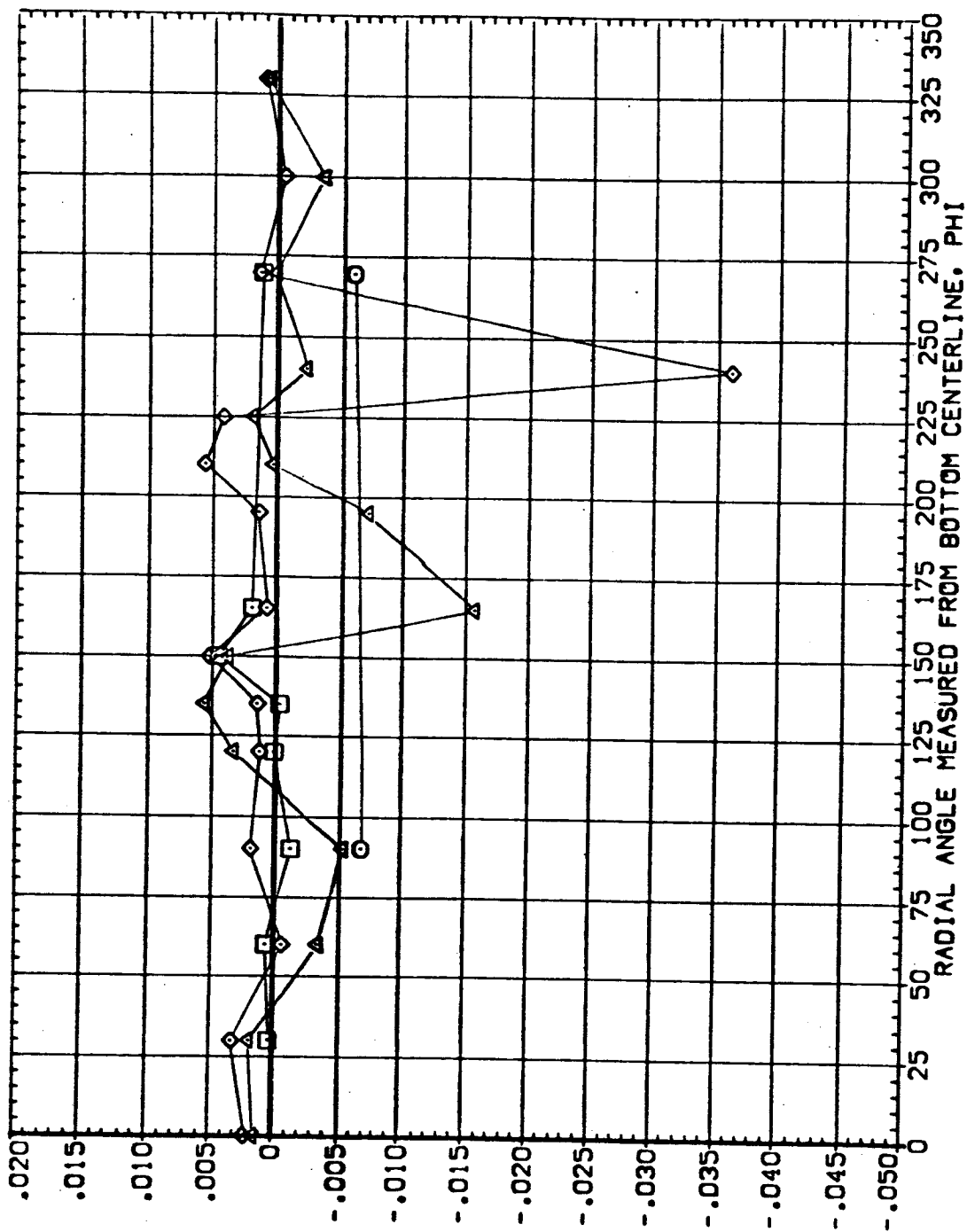


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK(EEUT05)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-1B	8.000	ELV-09	4.000
				RUDDER	.000	MACH	.900
				GIMBAL	1.000		

◇	.634
□	.742
△	.851
▽	.986

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

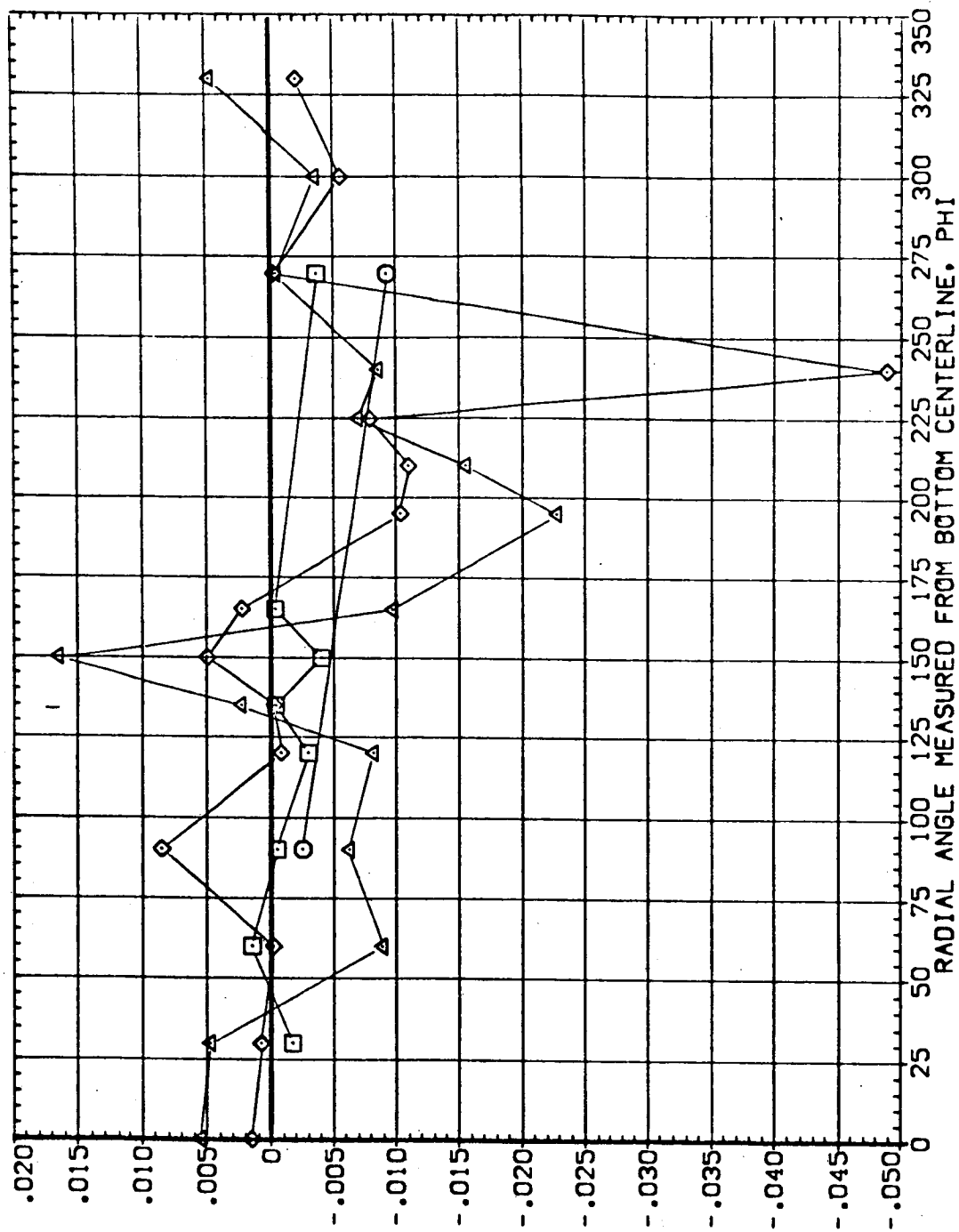


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK(EUT05)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.634	.000	4.000	RUDDER	.000	1.000	
□	.742			GIMBAL			
◇	.851						
△	.986						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

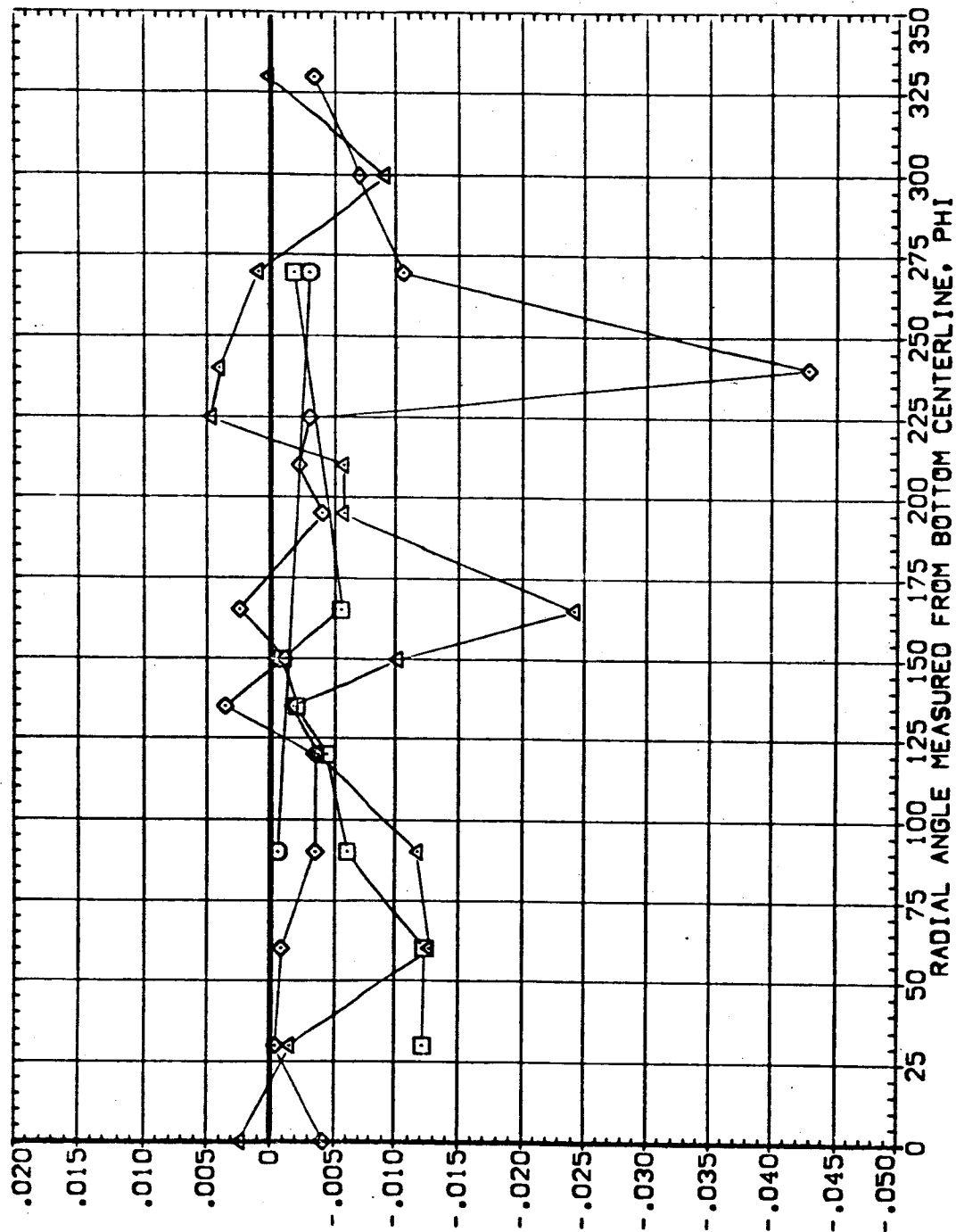


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
◇	.634	-4.000	.000	8.000	4.000		
□	.742			RUDDER			
△	.851			GIMBAL	1.000		
◇	.986						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

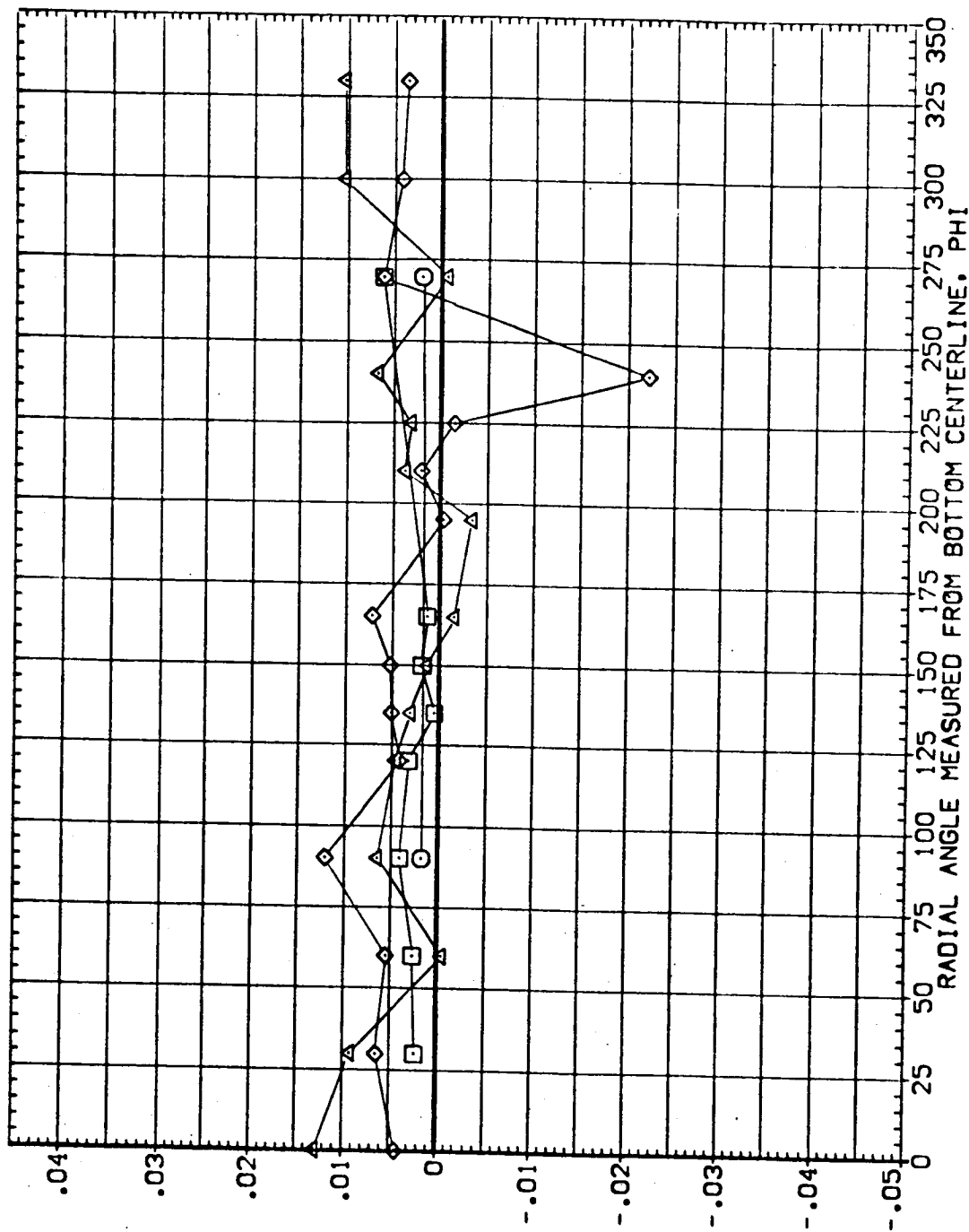


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK(FEUT05)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.634	1.000	.000	RUDER	.000	1.000	4.000
□	.742			GIMBAL			.900
◇	.851						
△	.986						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

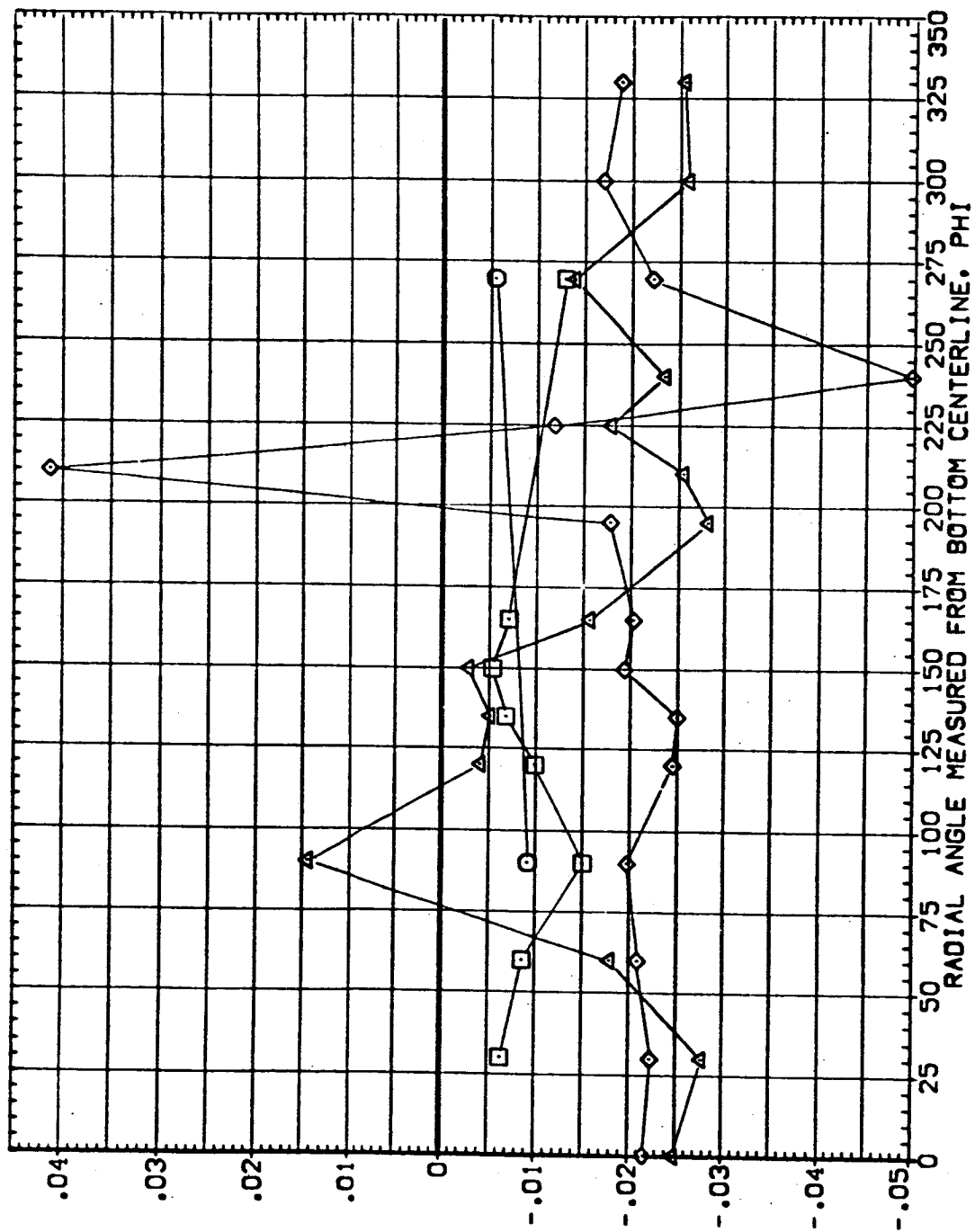


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

SYMBOL X/L BETA ALPHA

○	.634	.000	-4.000
□	.742		
◇	.851		
△	.986		

PARAMETRIC VALUES

ELV-1B	8.000	ELV-0B	4.000
RUDDER	.000	MACH	1.100
GIMBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

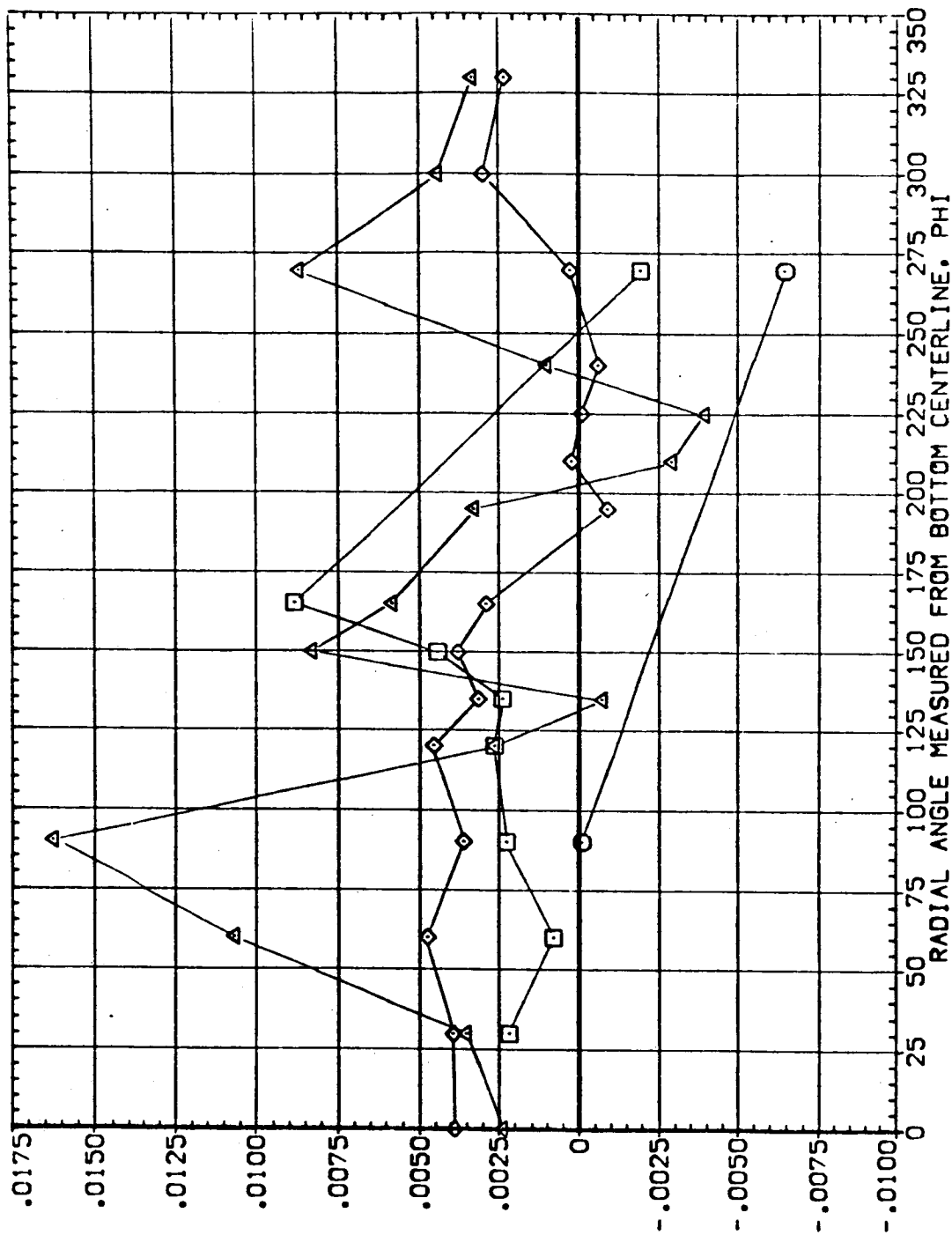


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK(EAUT06)

SYMBOL X/L BETA ALPHA

○ .634 .000

□ .742 .000

◇ .851 .000

△ .906 .000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.100

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

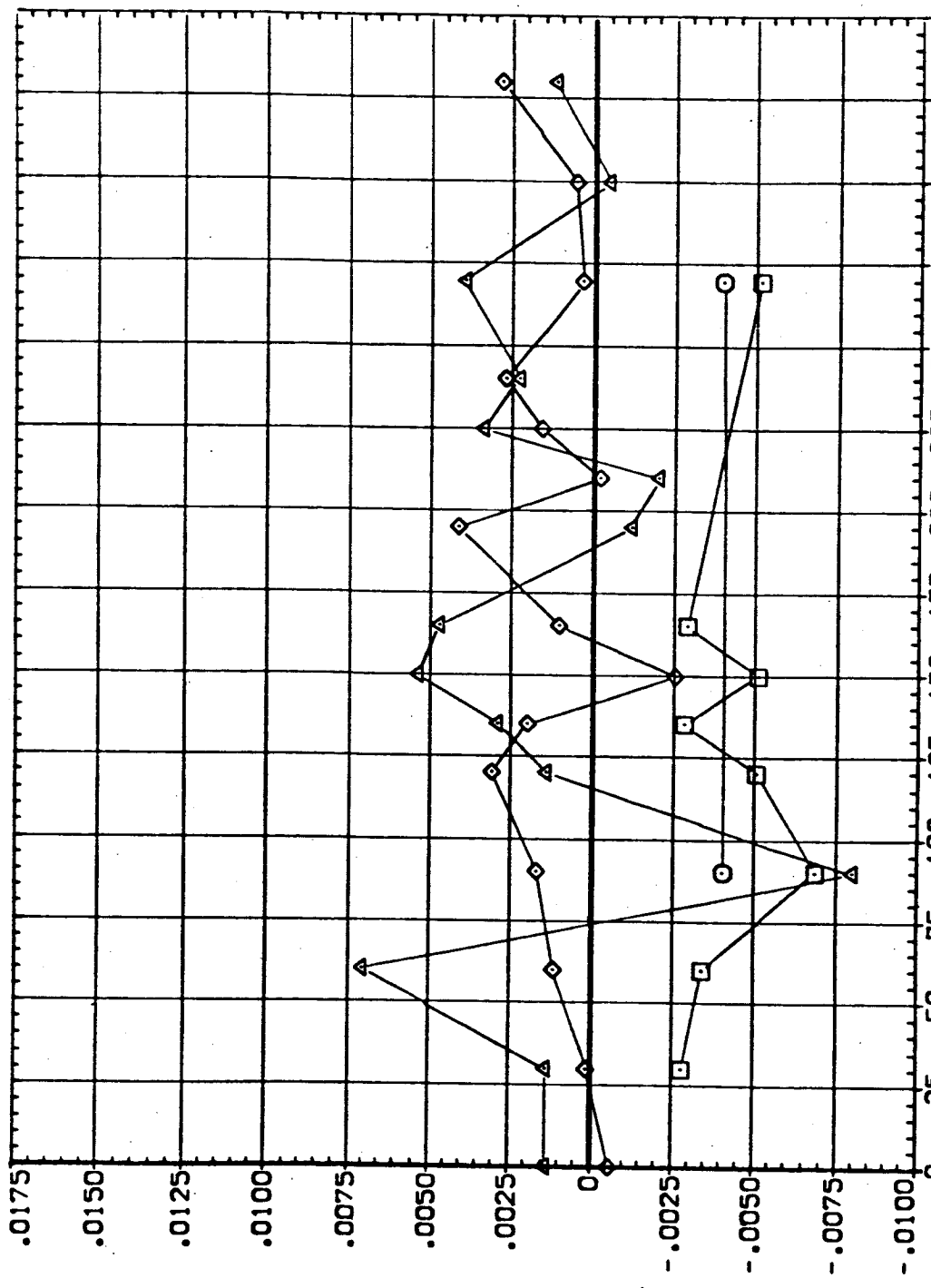


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 01S+STRUT SRB-NOM MPS-NOM EXT TANK(EAUT06)

SYMBOL X/L BETA ALPHA

○ .634 .000 4.000

□ .742 .000 4.000

◇ .851 .000 4.000

△ .986 .000 4.000

PARAMETRIC VALUES

ELV-IB 8.000 ELV-OB 4.000

RUDER .000 MACH 1.100

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

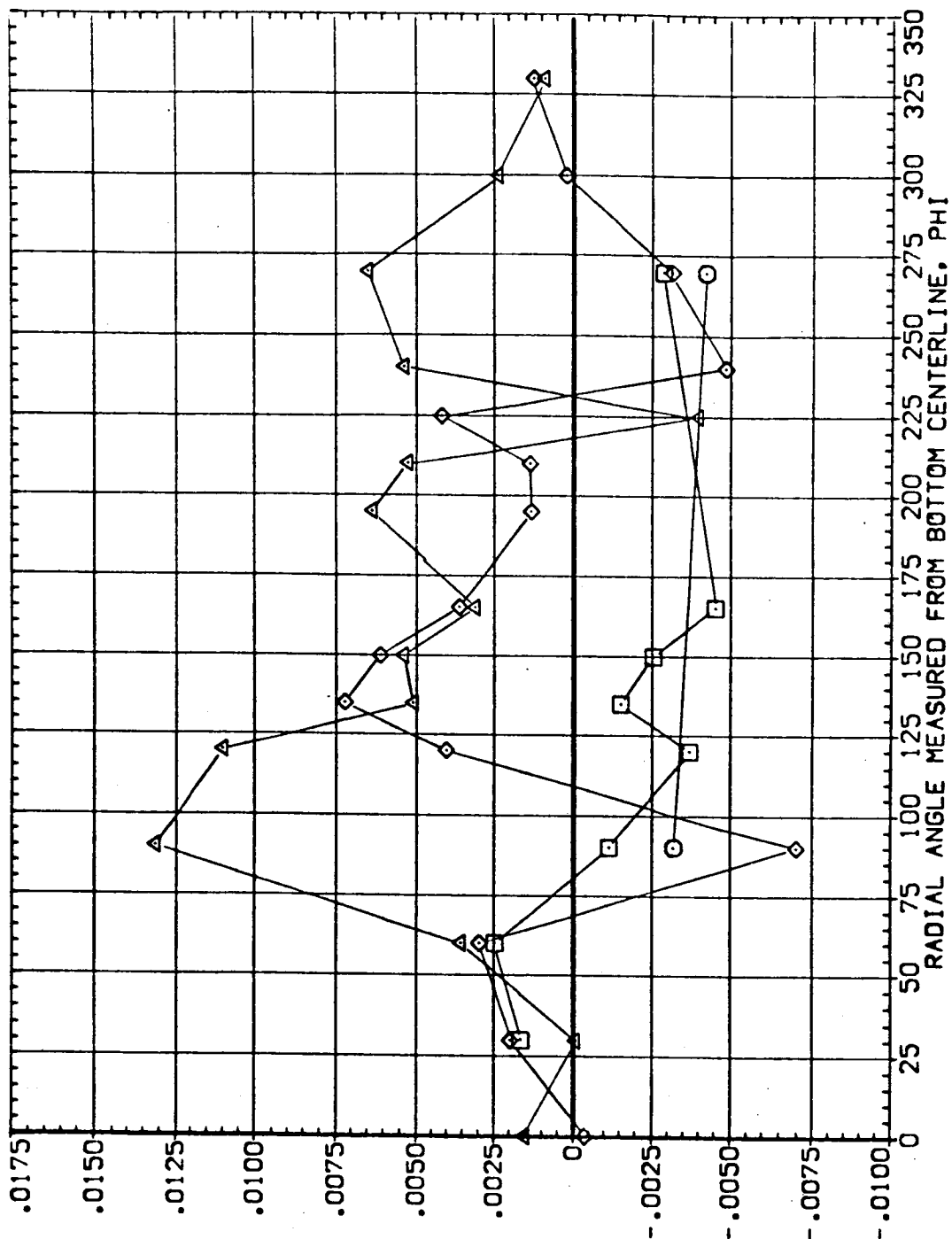


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK(FEUT06)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.634	-1.000	.000	RUDER	.000	1.000	4.000
□	.742			GIMBAL	1.000		1.100
◇	.851						
△	.986						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

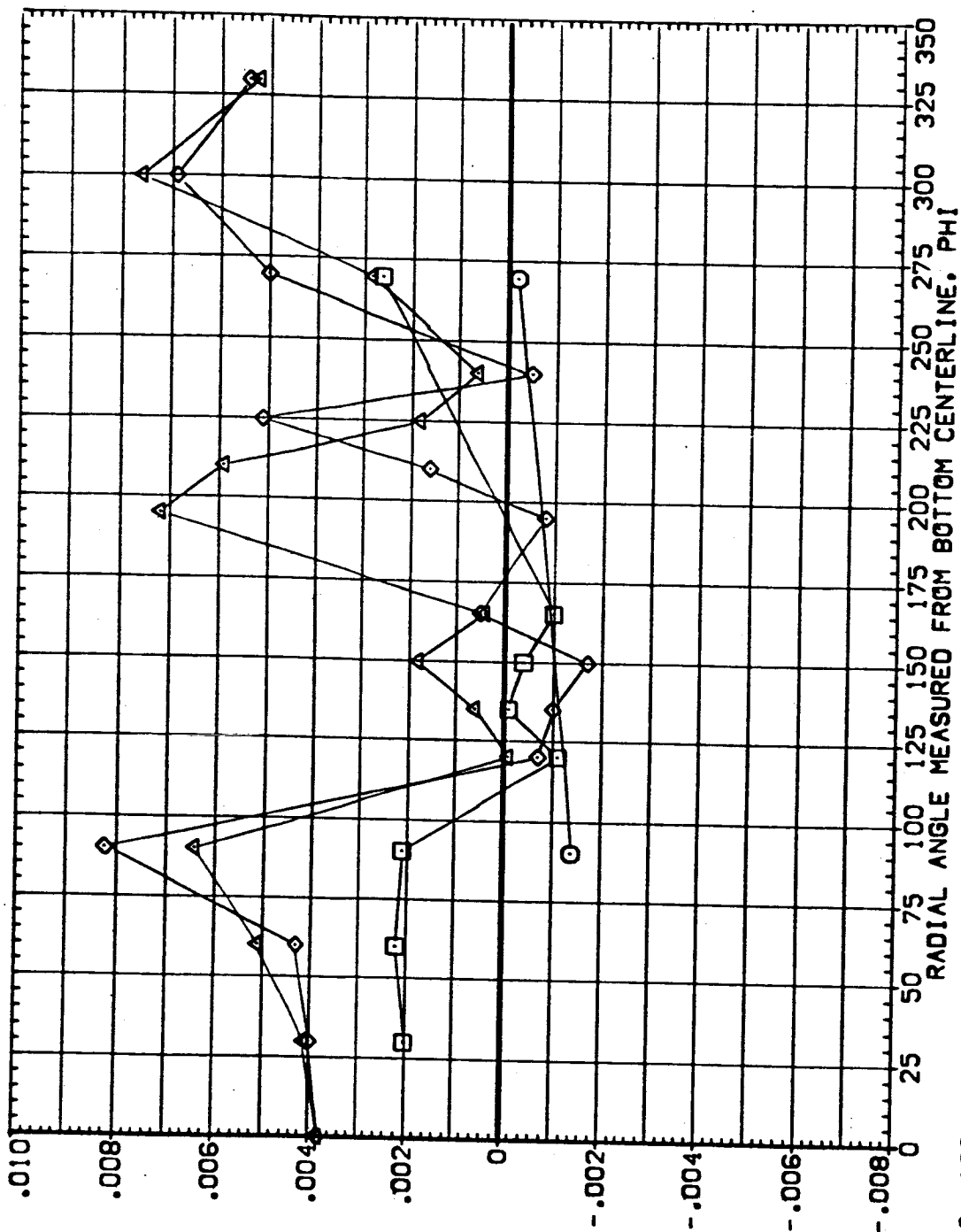


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-IB	ELV-OB	MACH	
○	.634	4.000	.000	RUDDER	.000	1.000	4.000
□	.742			GIMBAL	1.000		1.100
◇	.851						
△	.986						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

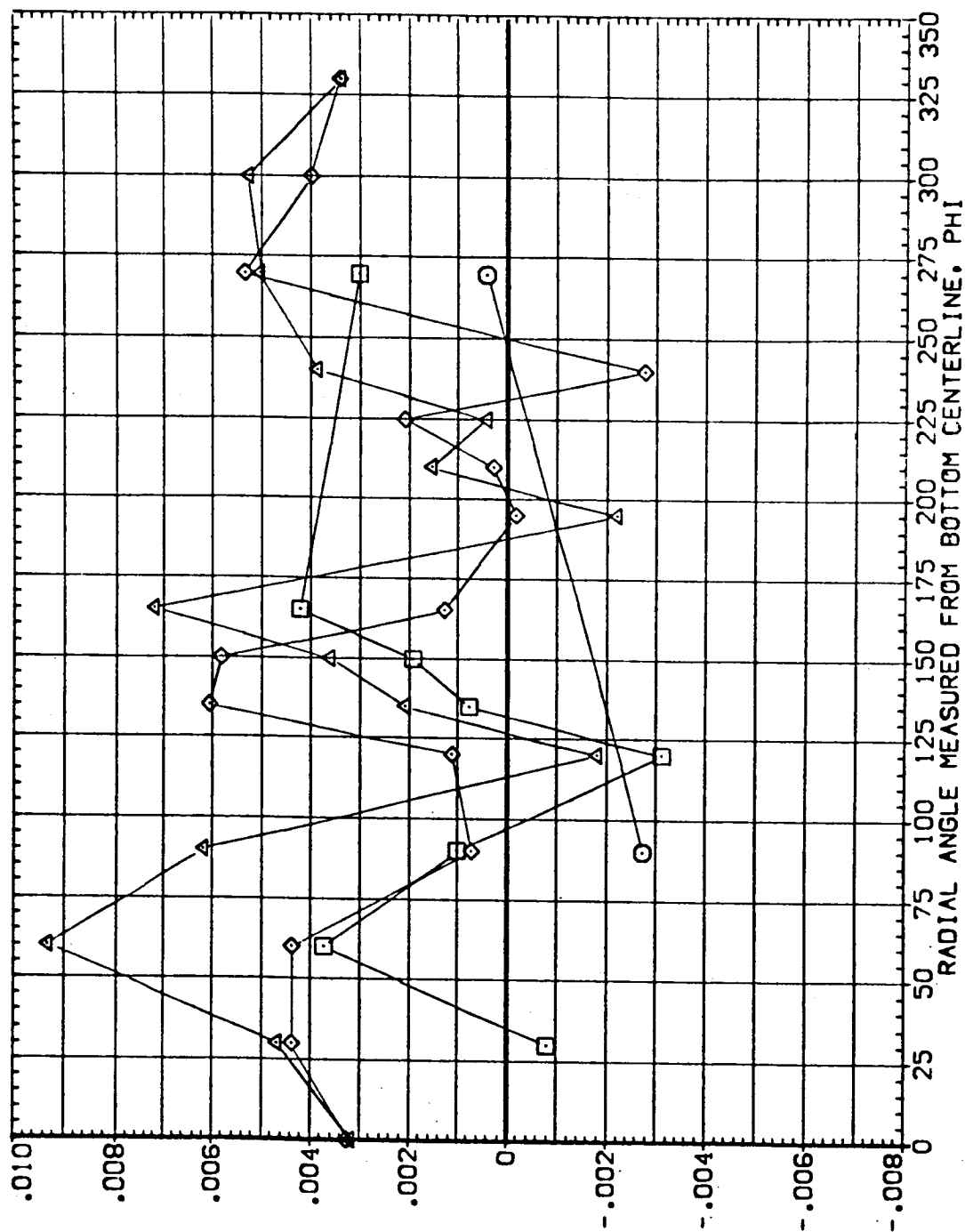


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK (EEUT07)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
□	.634	.000	-1.000	RUDER	.000	1.000	1.250
◇	.742			GIMBAL			
△	.851						
▽	.986						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

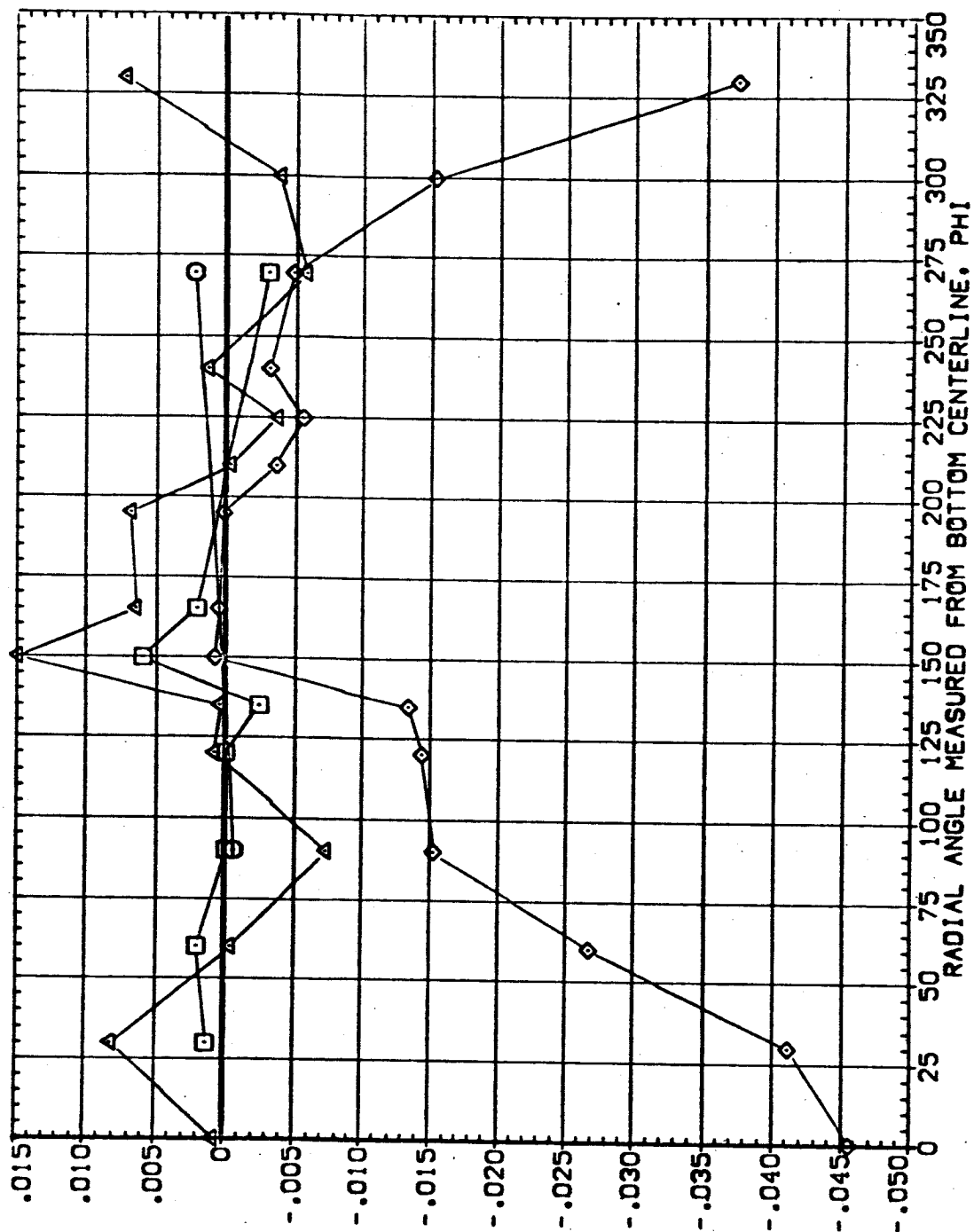


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK (EEUT07)

SYMBOL	X/U	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
□	.634	.000	.000	RUDER	.000	1.000	
◇	.742			GIMBAL	1.000		
△	.851						
○	.986						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

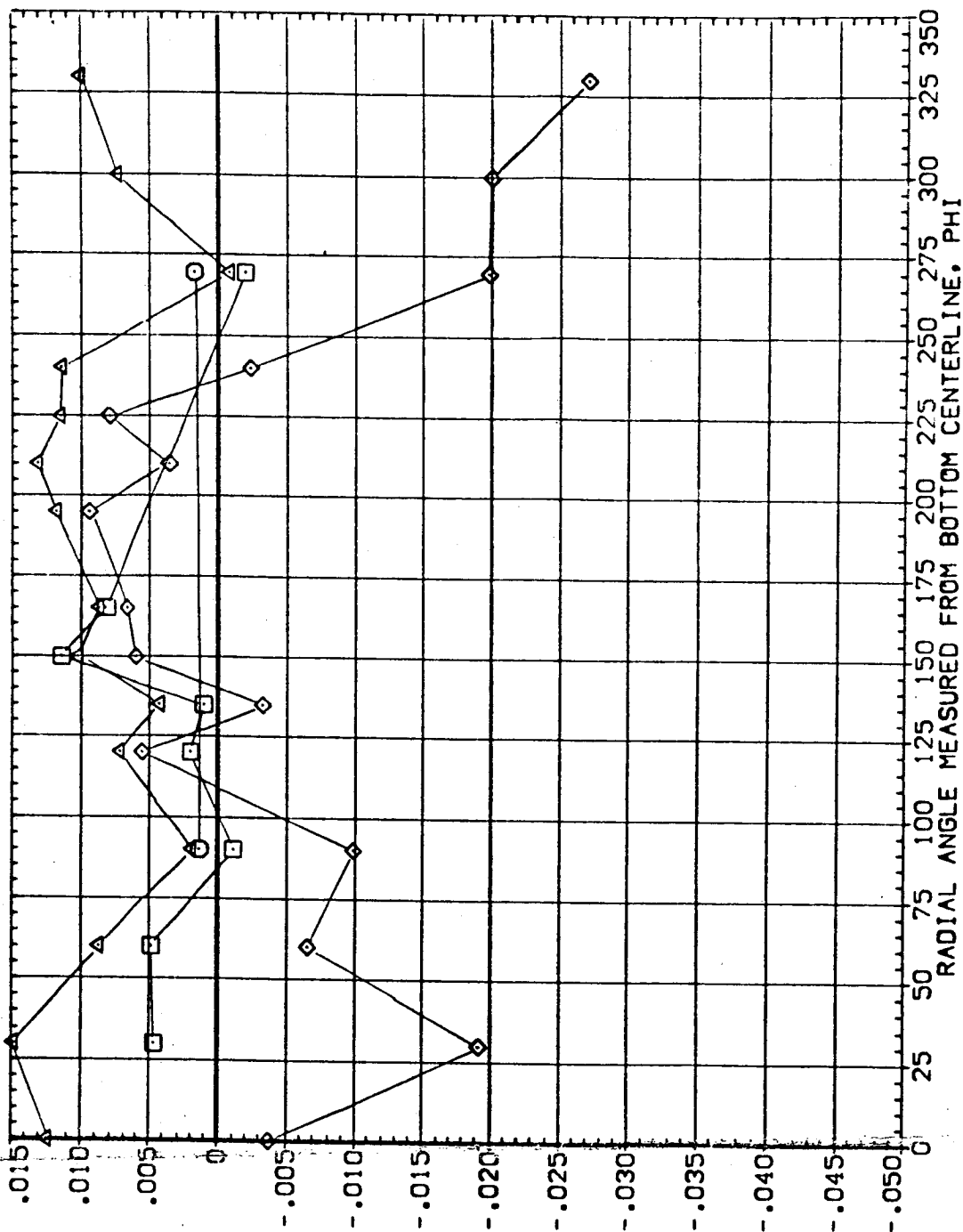


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-014IA19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK(EAUT07)

SYMBOL
 ○ □ ◇ △

X/L
 .634
 .742
 .851
 .986

BETA
 .000
 4.000

ELV-18
 RUDDER
 GIMBAL

PARAMETRIC VALUES
 8.000 ELV-08
 .000 MACH
 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

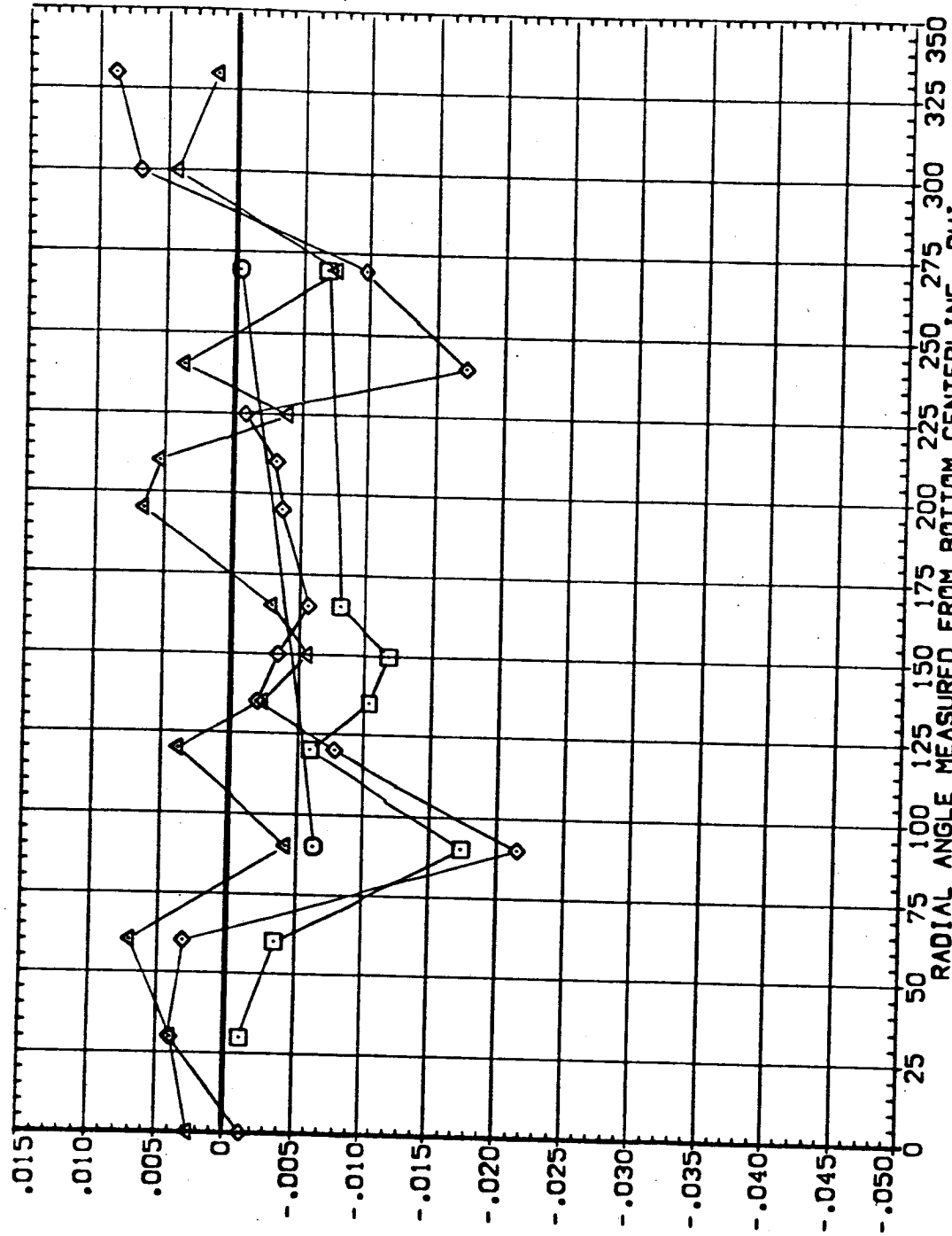


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES		
				ELV-18	ELV-08	
○	.634	-1.000	.000	8.000	4.000	
□	.742			RUDER	1.250	
◇	.851			GIMBAL	1.000	
△	.986					

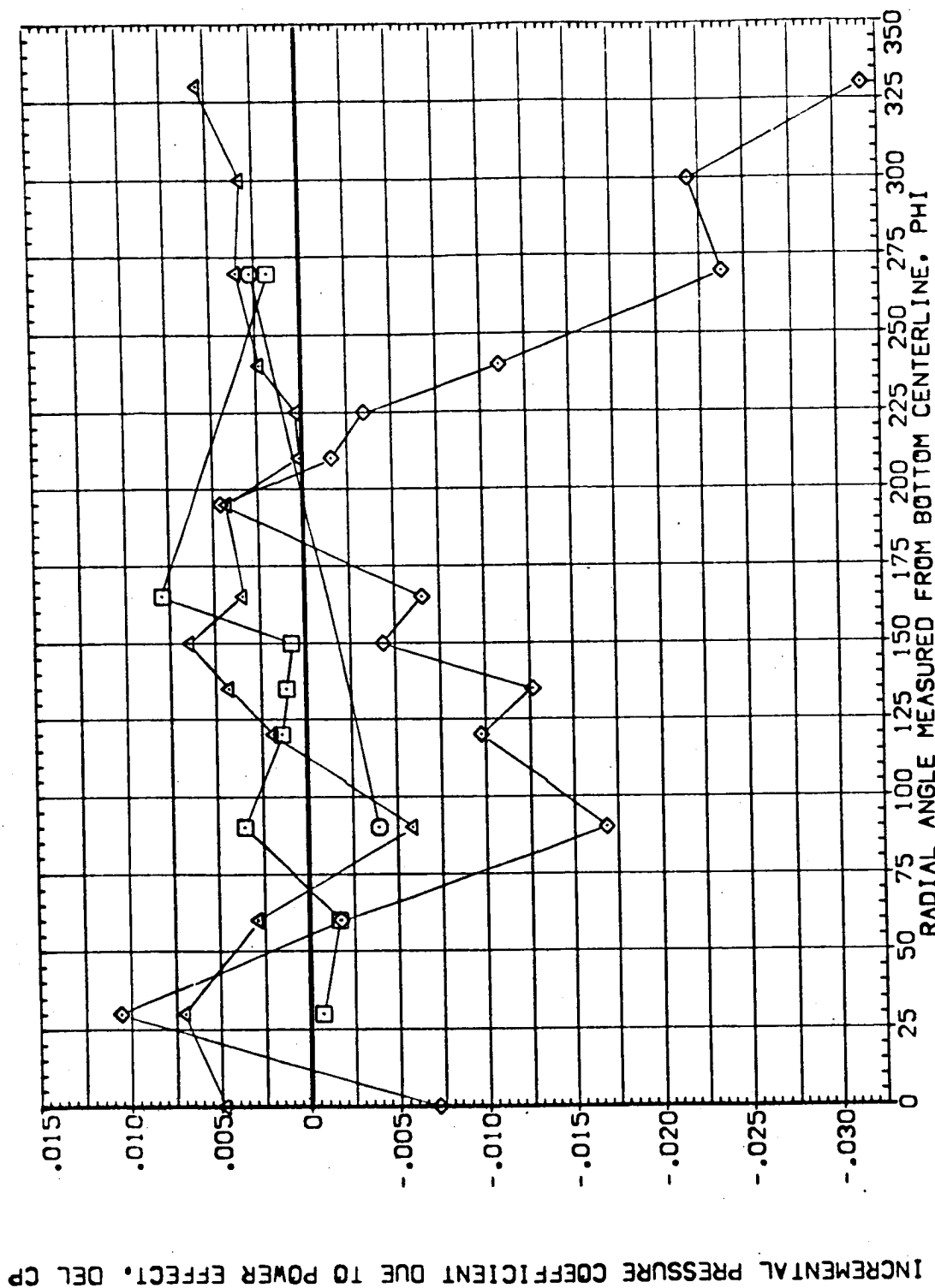


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK(FEUT07)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-1B	ELV-09	MACH	
○	.634	4.000	.000	8.000	1.000	4.000	
□	.742			RUDER			
◇	.851			GIMBAL			
△	.986						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

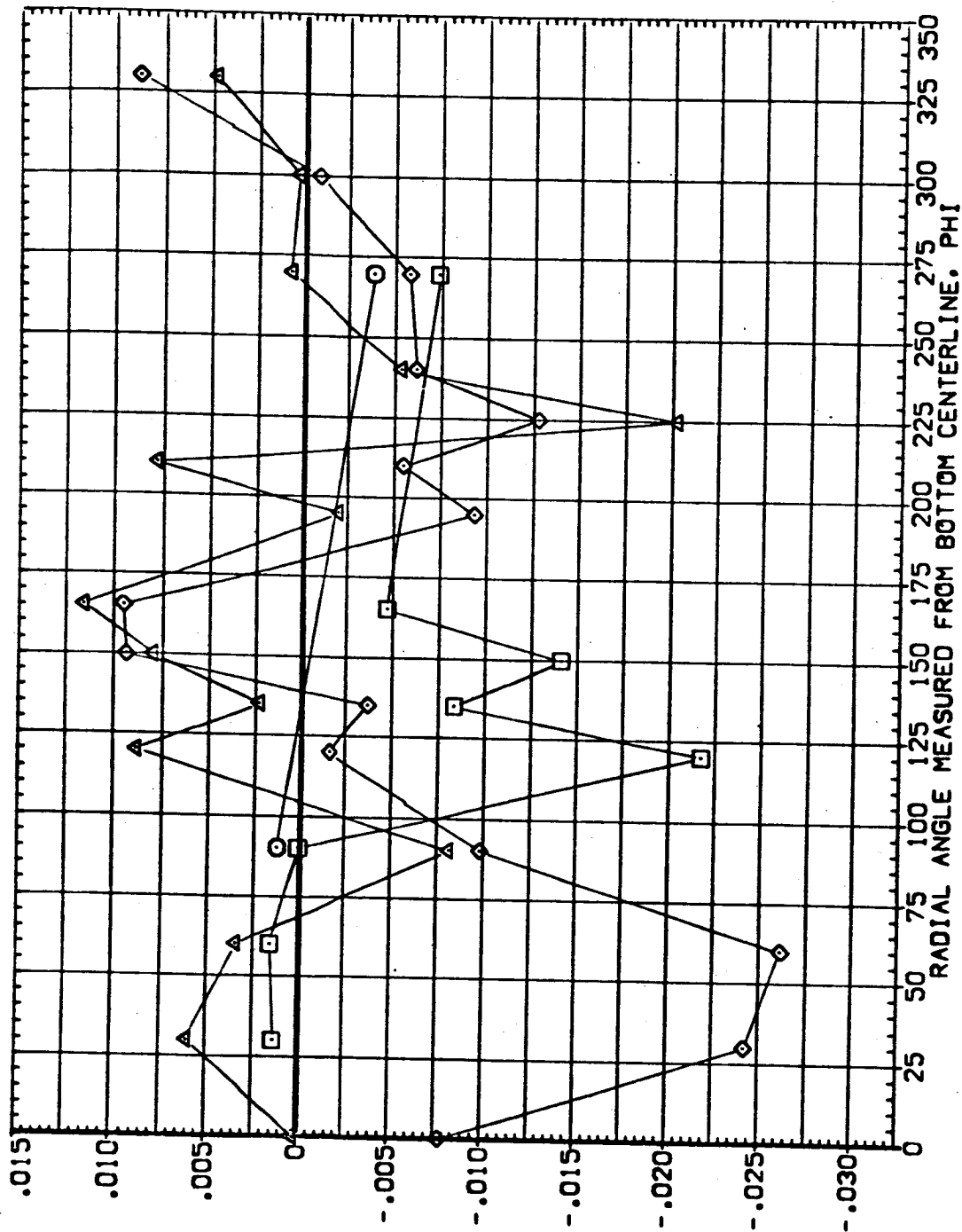


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
				RUDER	.000	MACH	1.400
				GIMBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

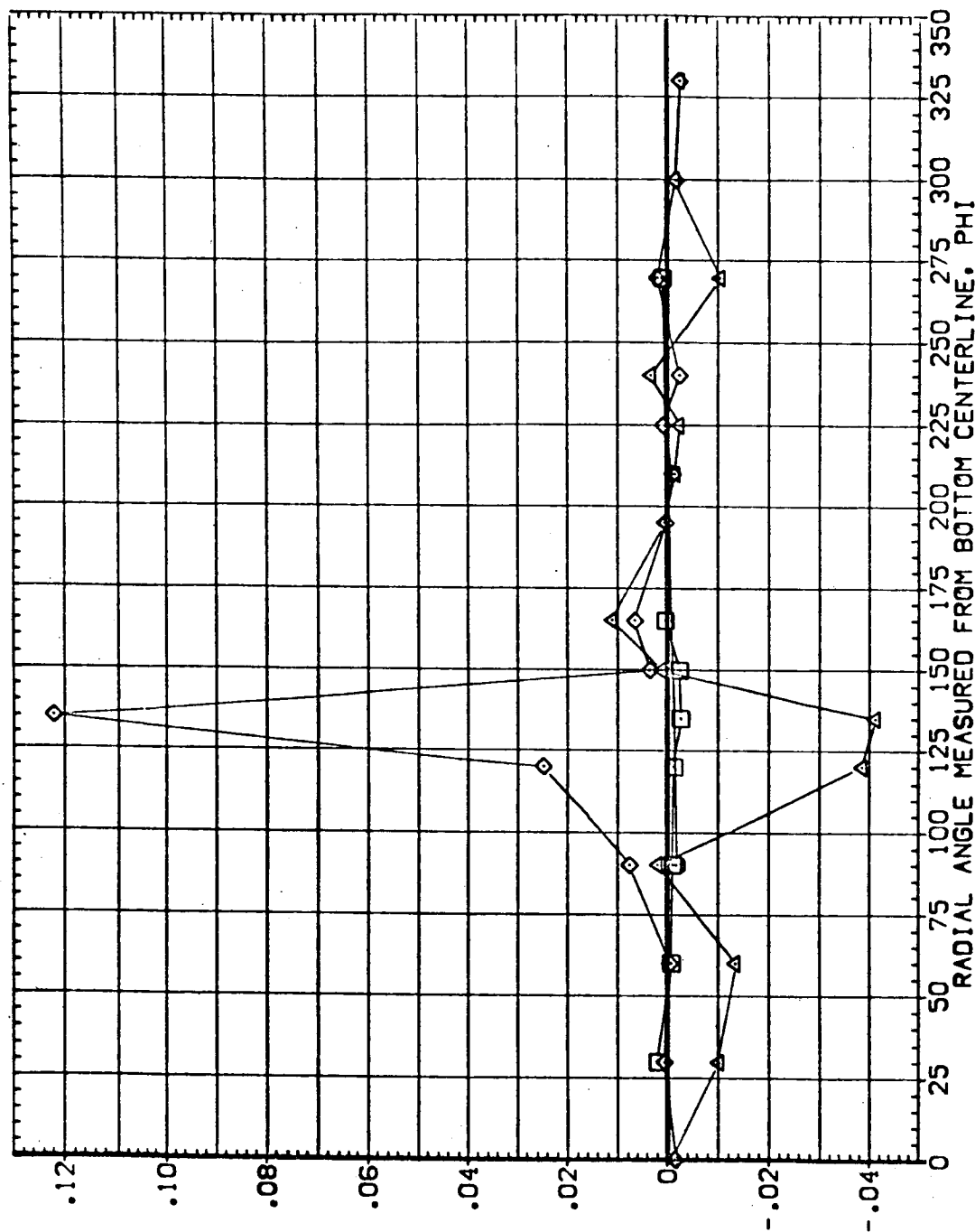


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK(EAUT08)

SYMBOL X/L BETA ALPHA

◇	.634	.000	.000
□	.742	.000	.000
○	.851	.000	.000
△	.988	.000	.000

PARAMETRIC VALUES

ELV-18	8.000	ELV-09	4.000
RUDER	.000	MACH	1.400
GIMBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

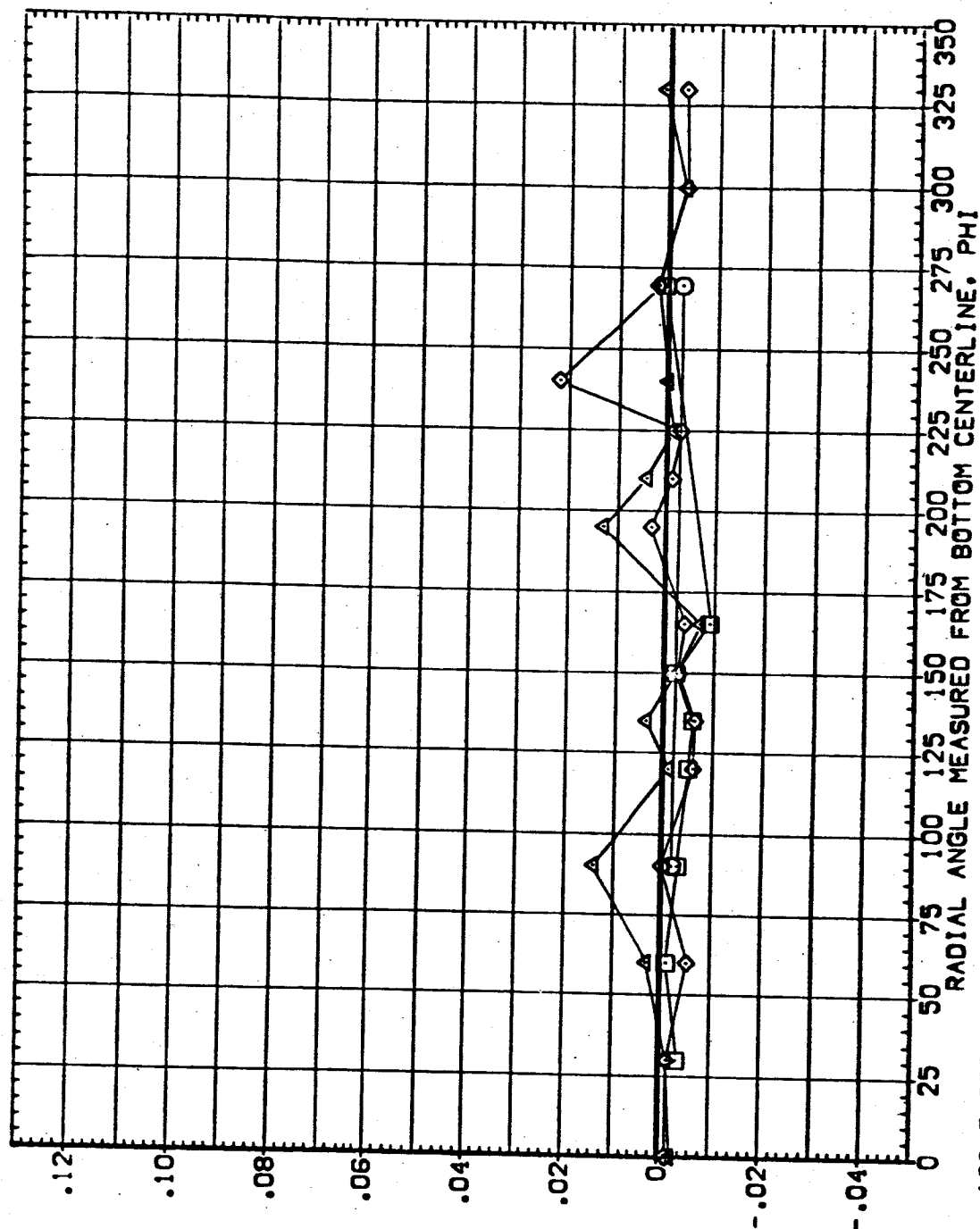


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK(EAUT08)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES
○	.634	.000	1.000	ELV-18 8.000 ELV-08 4.000
□	.742			RUDER .000 MACH 1.400
◇	.851			GIMBAL 1.000
△	.986			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

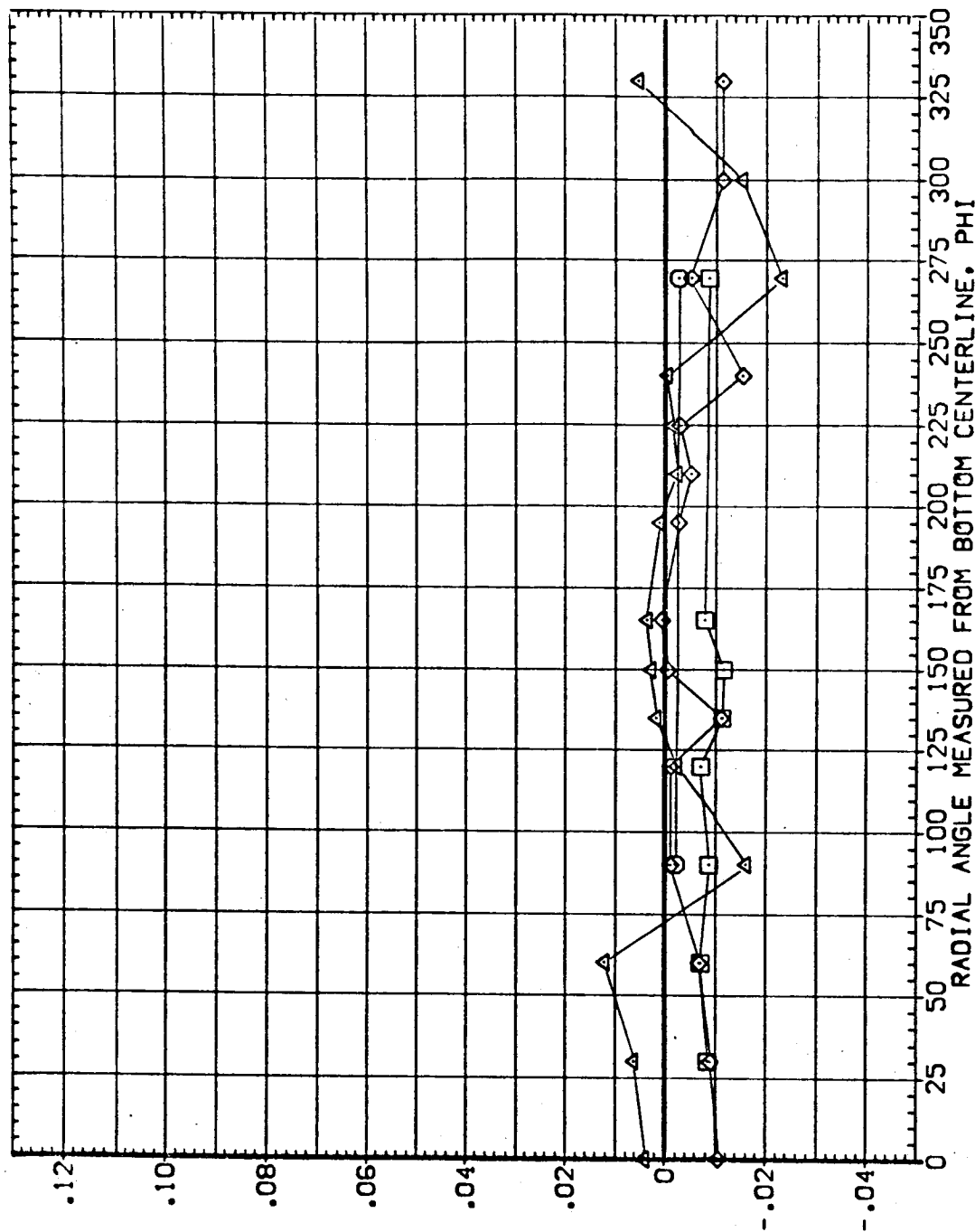


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM EXT TANK(FEUT08)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES
	.634	-4.000	.000	ELV-18 8.000 ELV-08 4.000
□	.742			RUDDER .000 MACH 1.400
◇	.851			
△	.936			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

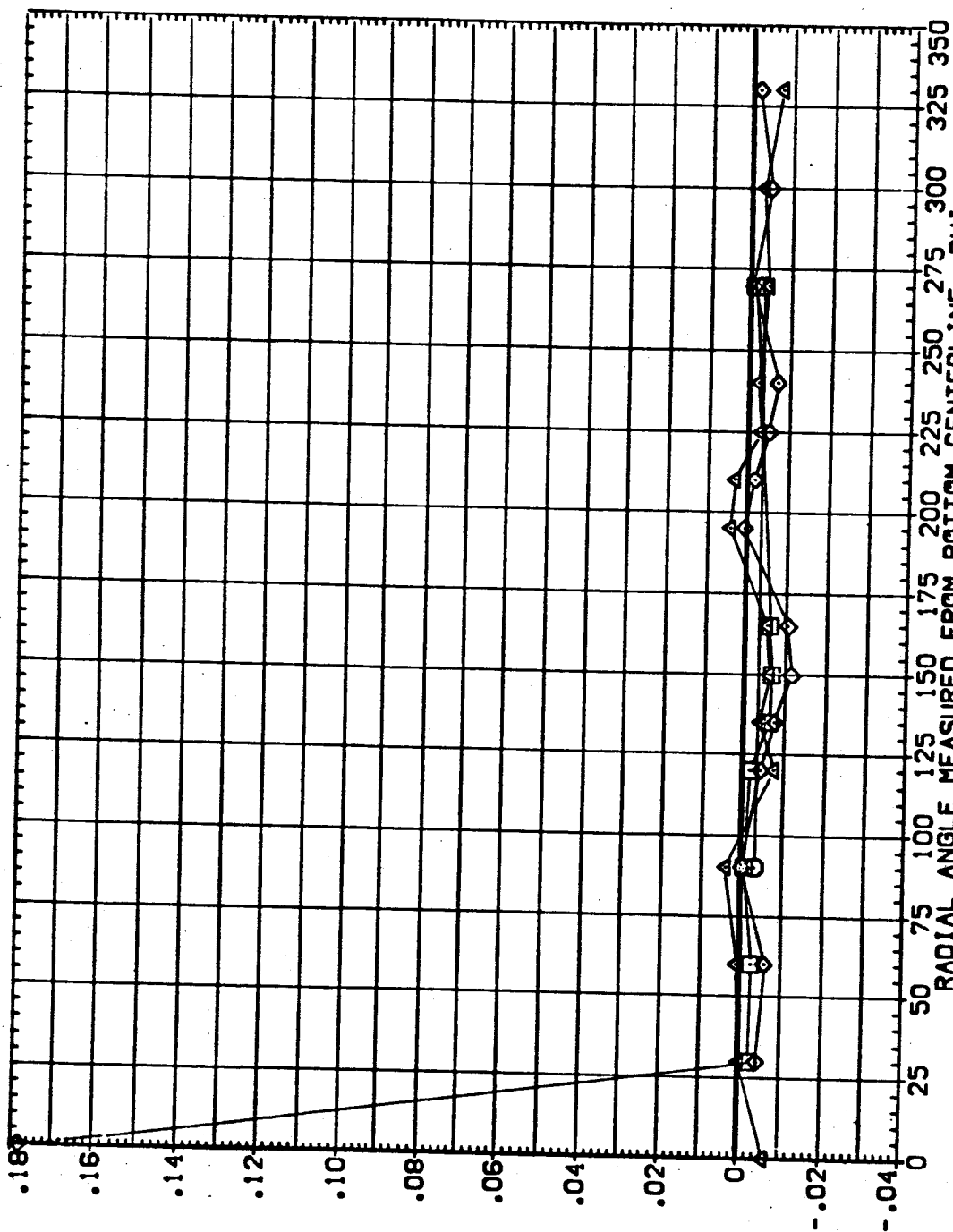


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES		
				ELV-18	ELV-09	4.000
○	.634	4.000	.000	RUDDER	.000	1.400
□	.742			GIMBAL	1.000	
◇	.851					
△	.986					

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

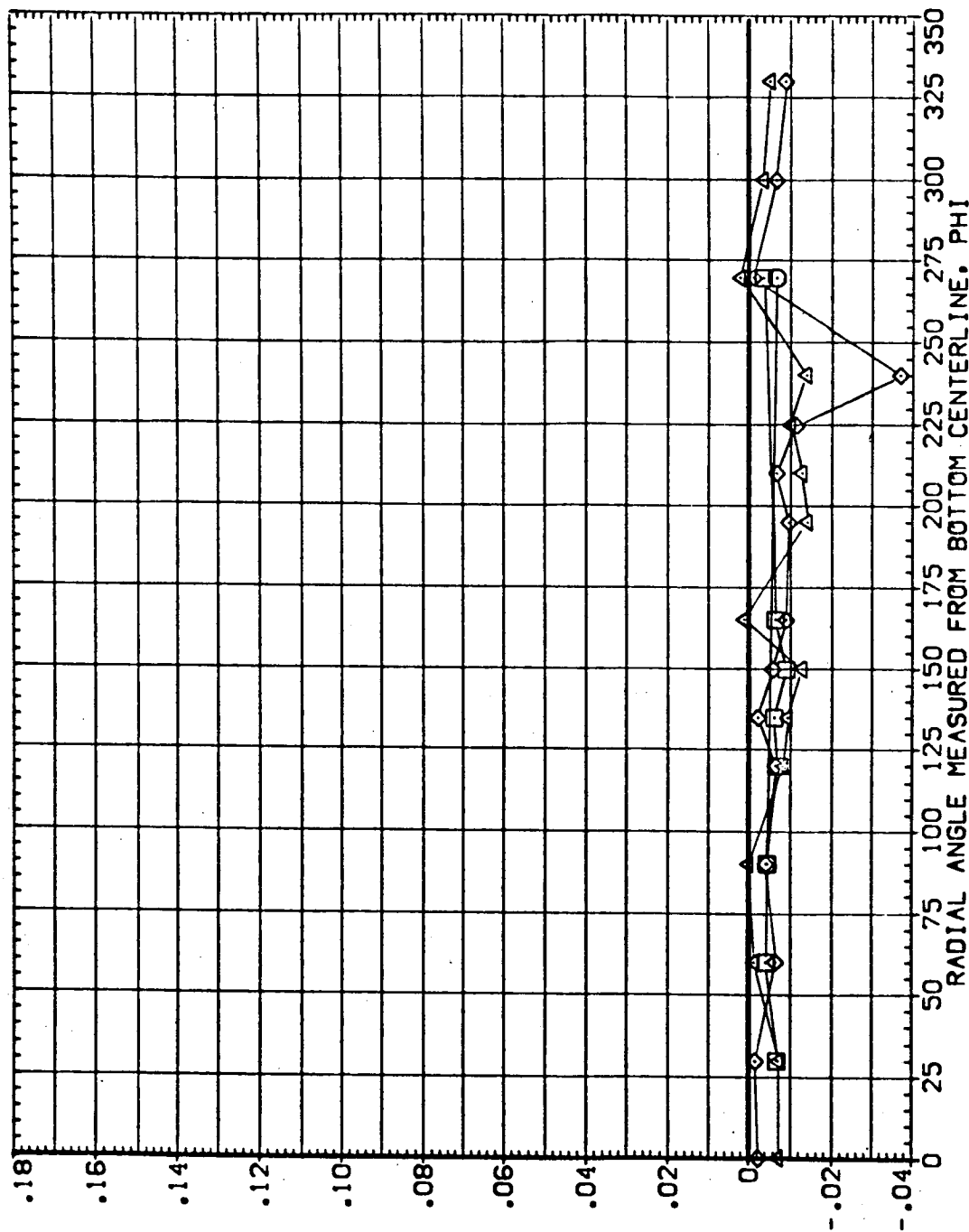


FIG. 103 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB AND MPS

C. 9

ARC11-0141A19 01S+STRUT SRB-NOM MPS-OFF EXT TANK(EUT13)

SYMBOL

X/L .634
.742
.851
.966

BETA .000
ALPHA -1.000

PARAMETRIC VALUES
ELV-18 8.000 ELV-09 4.000
RUDDER .000 MACH .900
GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

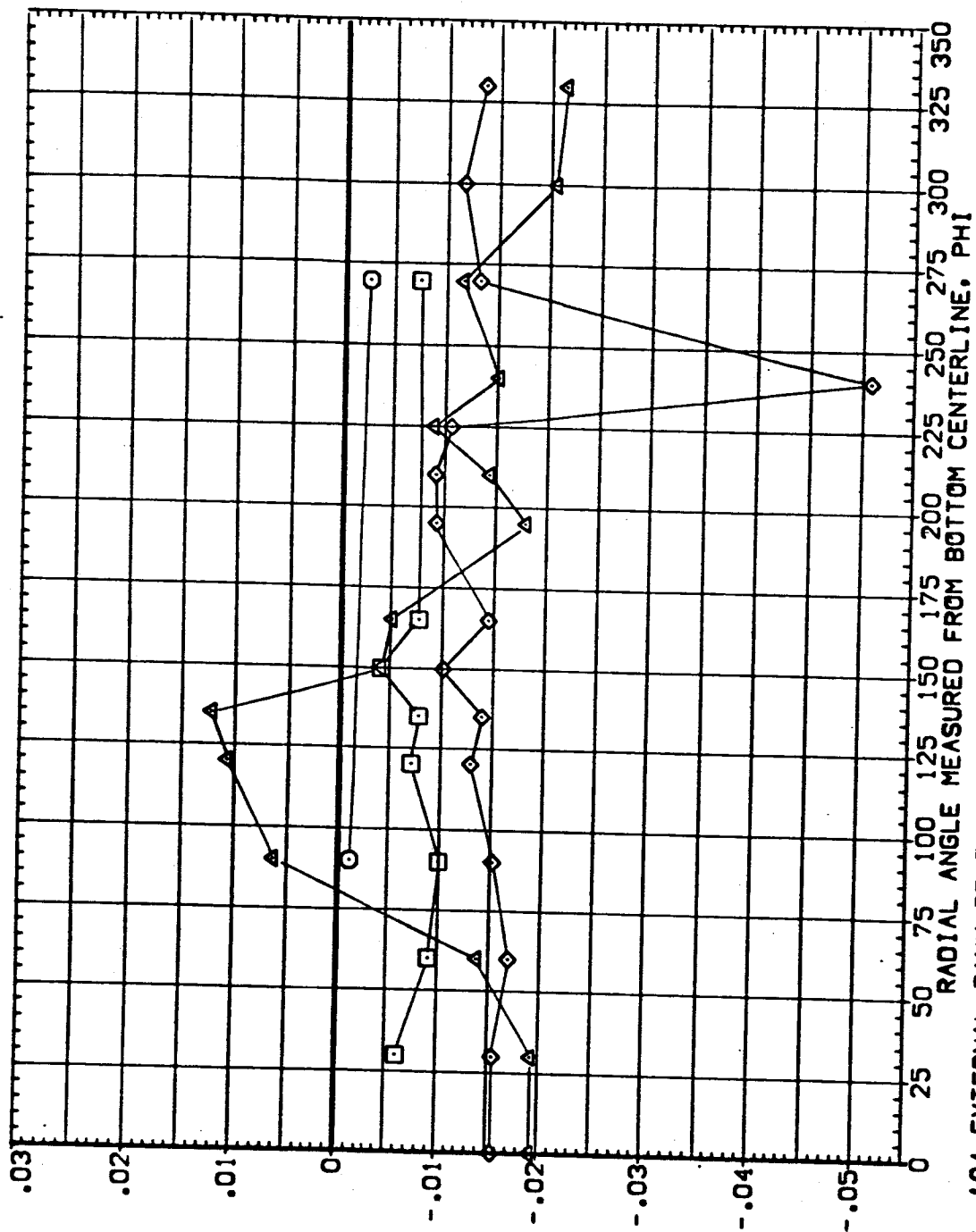


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(EAUT13)

SYMBOL	XAL	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	1.000
	.634	.000	.000	RUDER	.000	MACH	.900
	.742			GIMBAL	1.000		
	.851						
	.986						

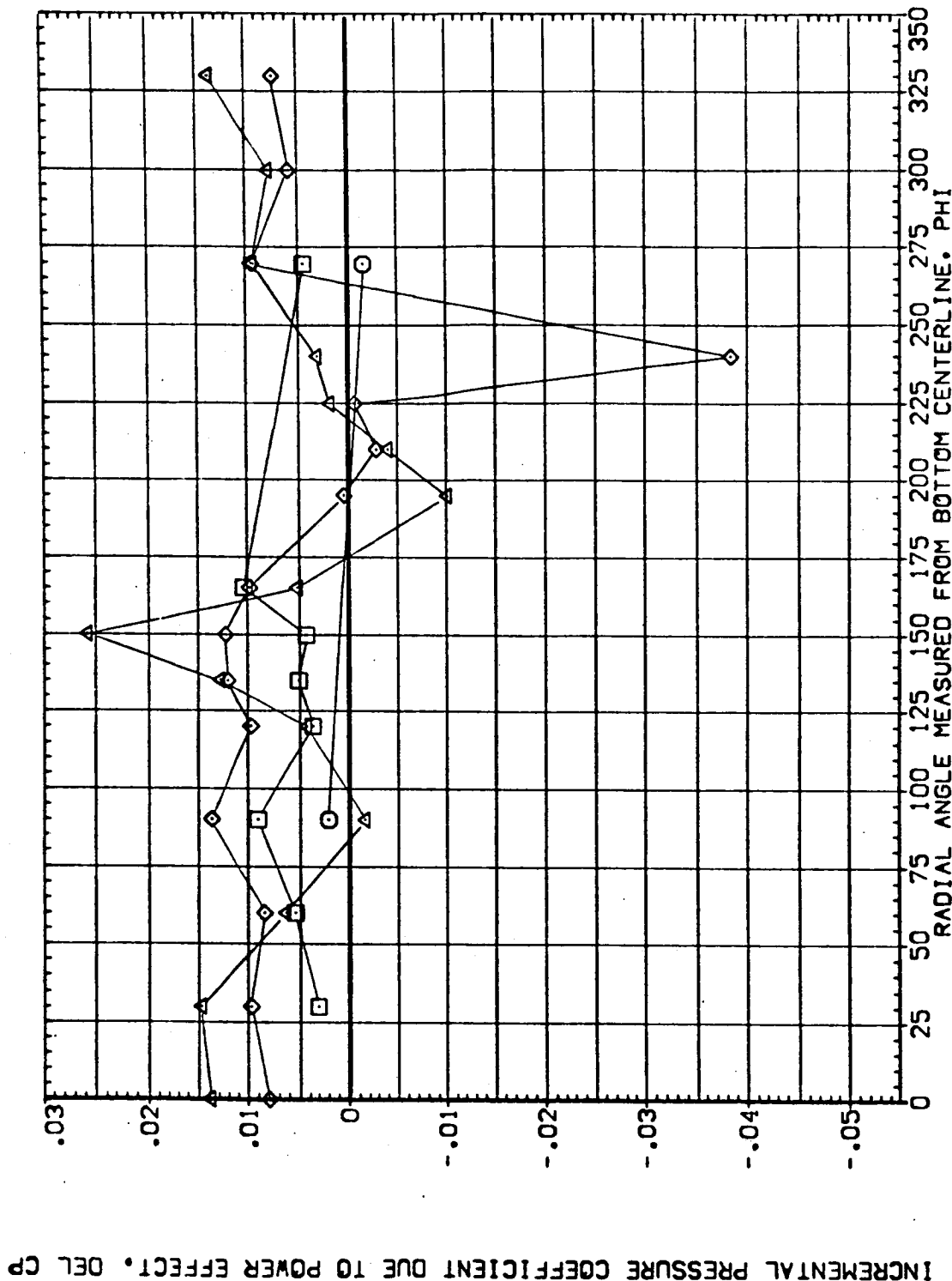


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(EET13)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES					
				ELV-18	ELV-08	ELV-08	MACH		
								RUDDER	GIMBAL
	.634	.000	4.000						
	.742								
	.851								
	.986								

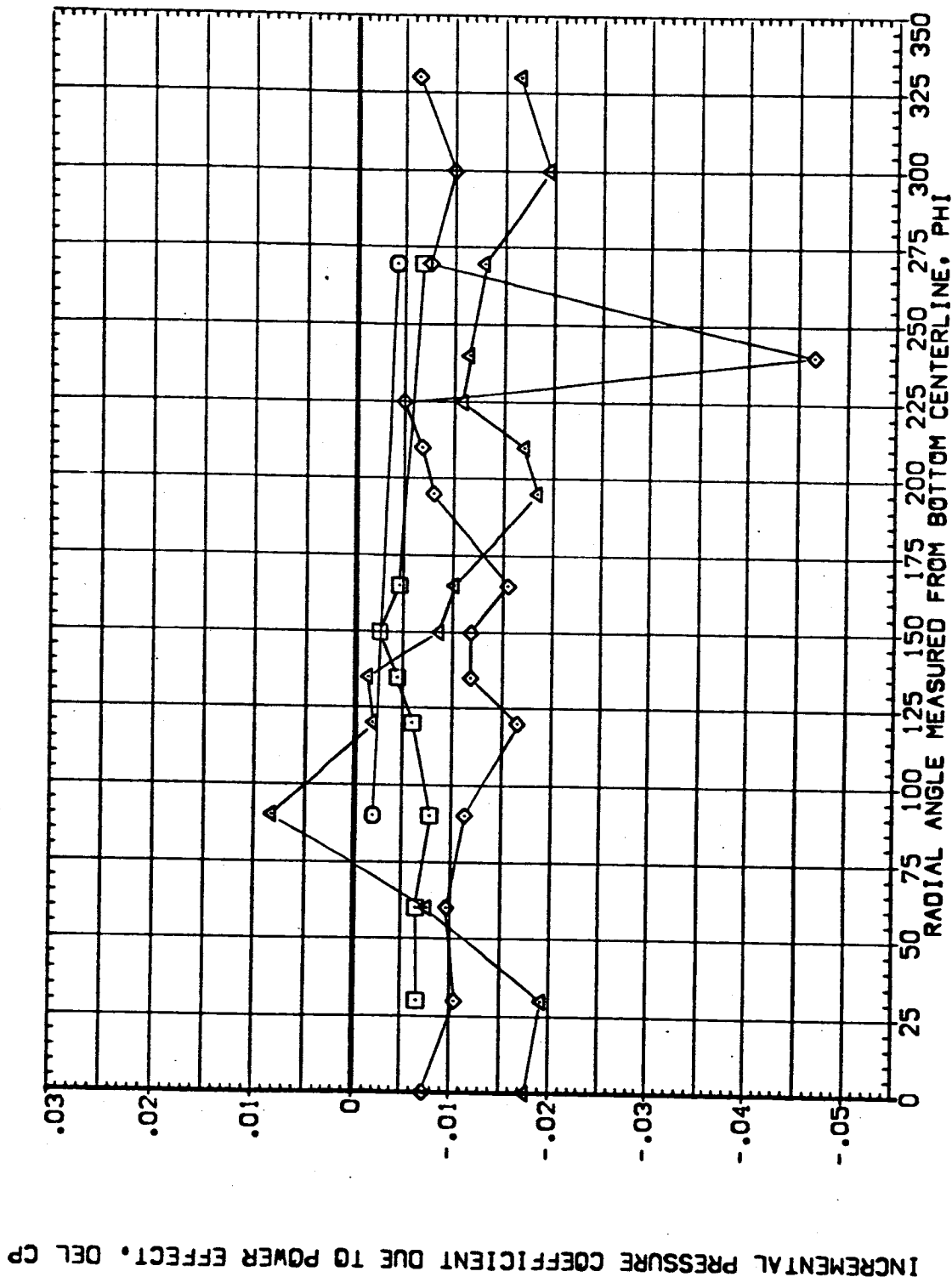


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

SYMBOL X/L BETA ALPHA

PARAMETRIC VALUES
ELV-18 8.000 ELV-09 4.000
RUDDER .000 MACH .900
GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

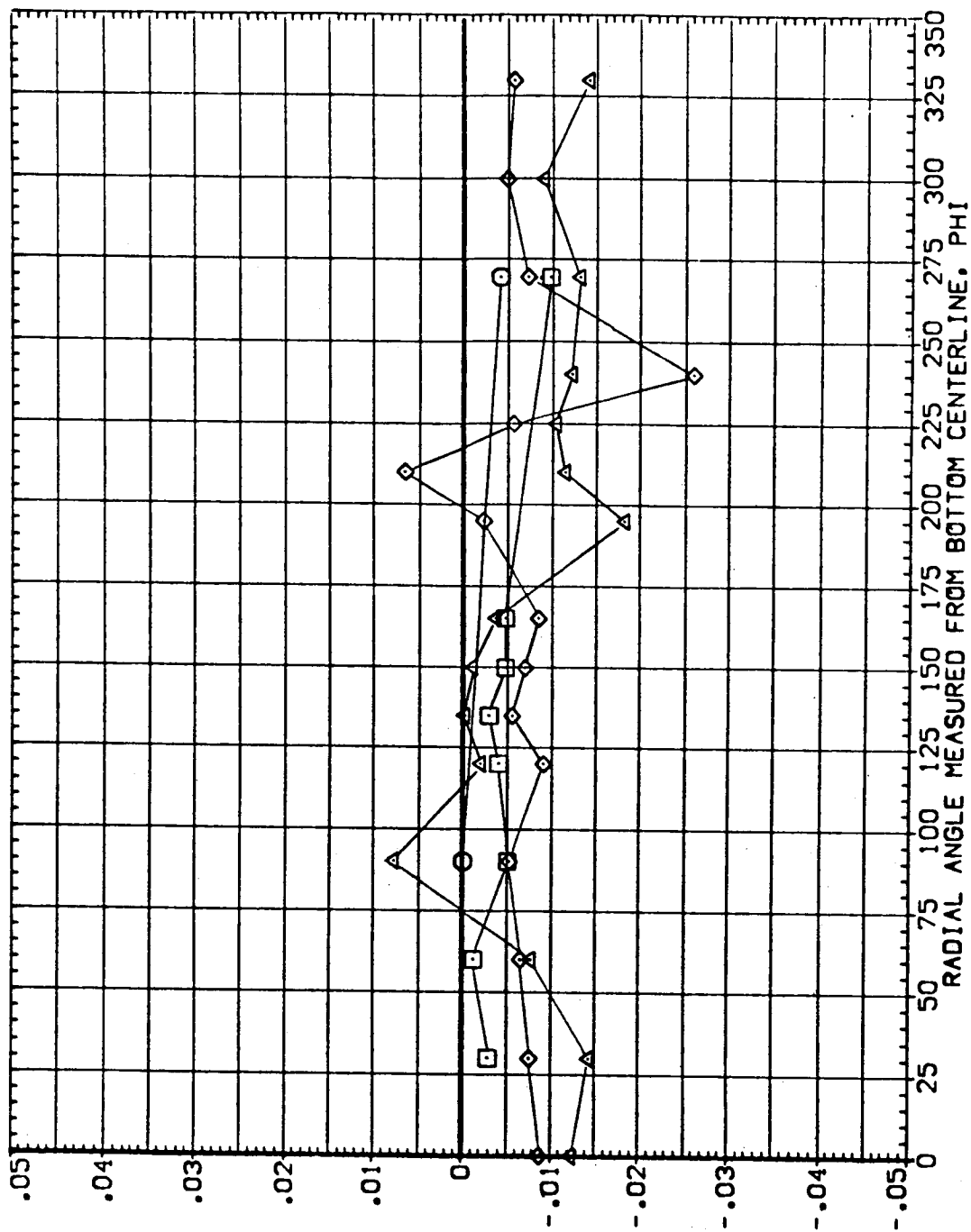


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK (FEUT13)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
○	.634	4.000	.000	RUDDER	.000	MACH	.900
□	.742			GIMBAL	1.000		
◇	.851						
△	.986						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

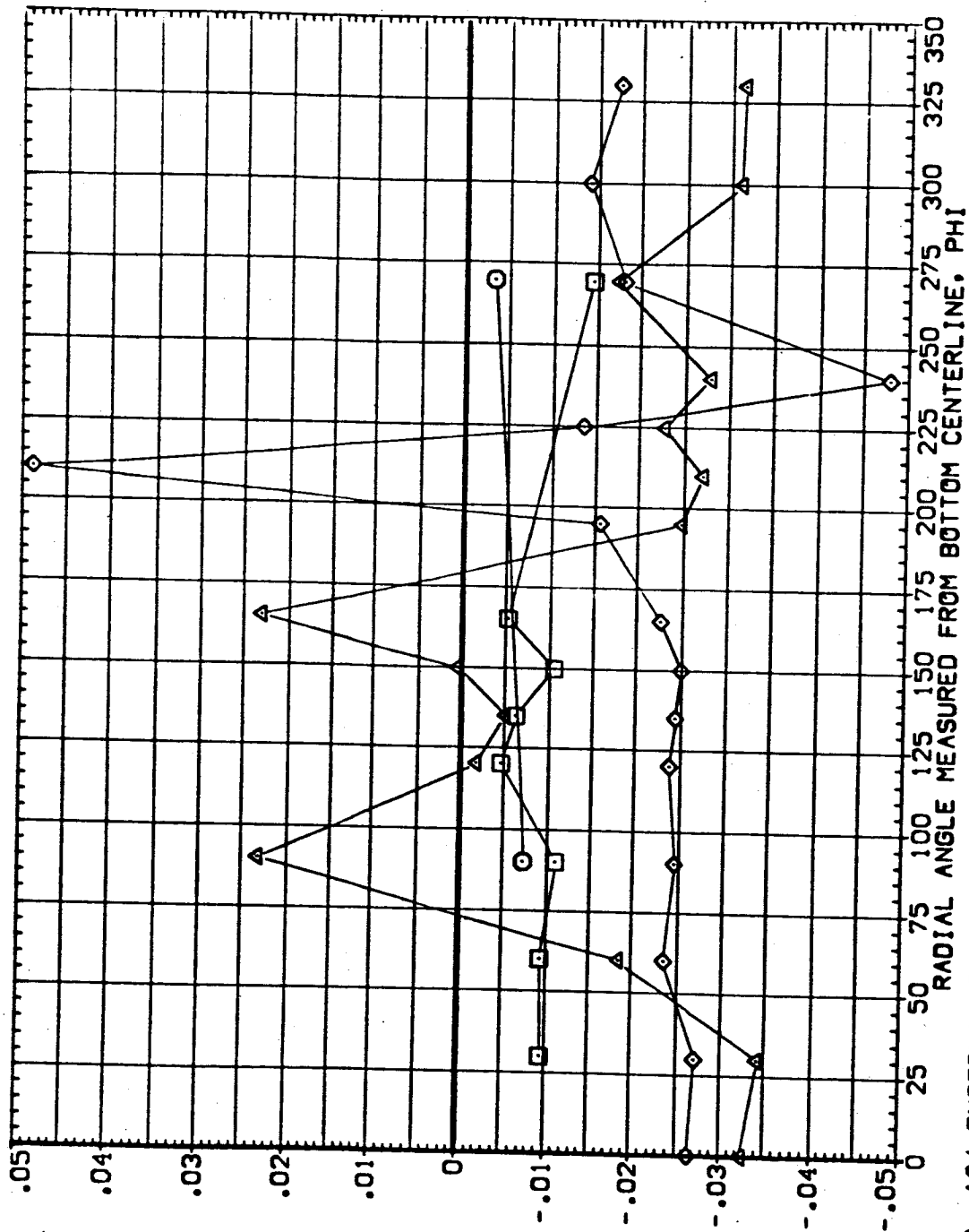


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(EUT14)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-1B	ELV-08	ELV-08	MACH
○	.634	.000	-1.000	RUDER	.000	1.000	4.000
□	.742			GIMBAL	1.000		1.100
◇	.851						
△	.906						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

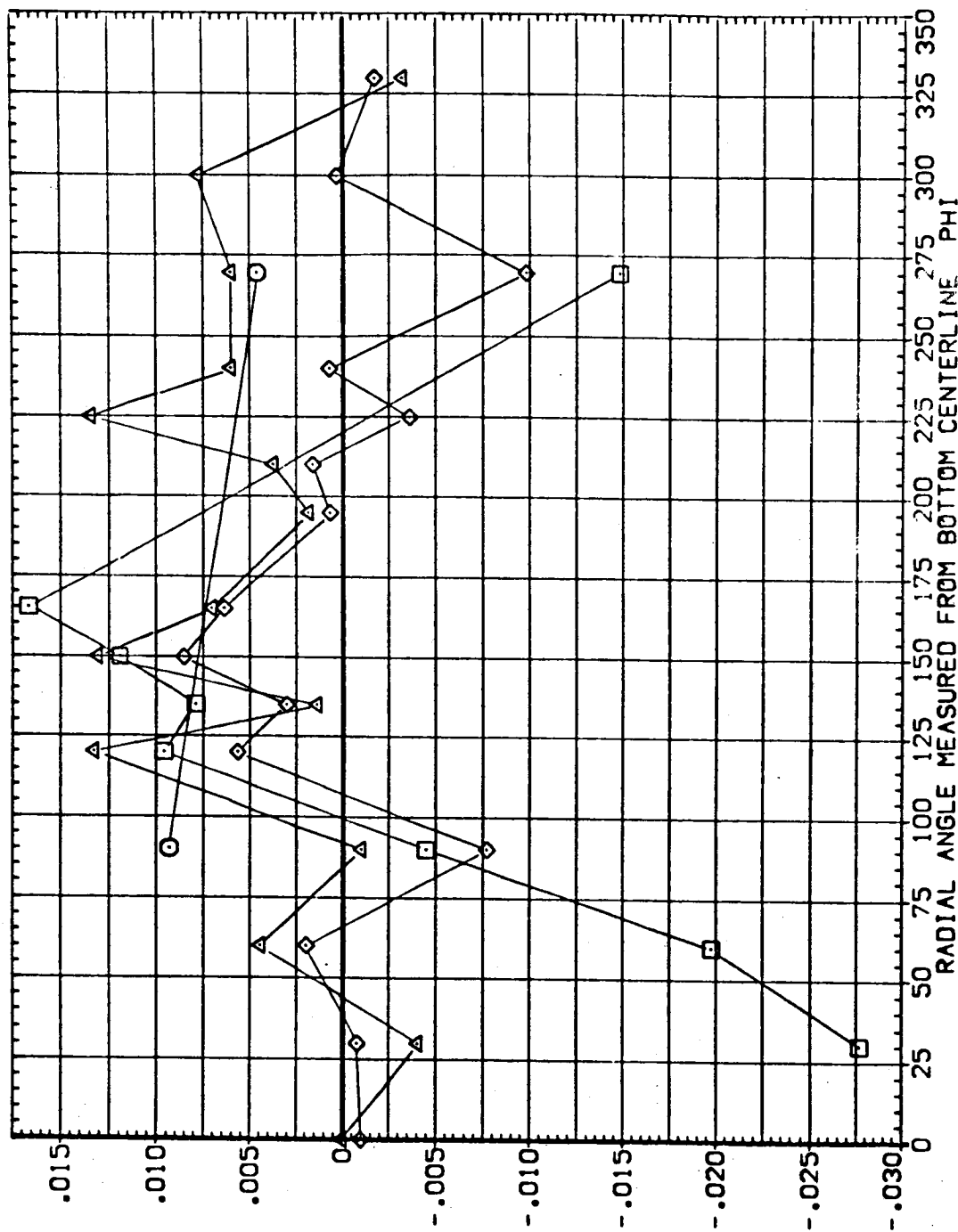


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(EETU14)

SYMBOL X/L BETA ALPHA

◇ .634 .000 .000

□ .742 .000 .000

△ .851 .000 .000

▽ .986 .000 .000

PARAMETRIC VALUES

ELV-IB 8.000 ELV-OB 4.000

RLODER .000 MACH 1.100

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

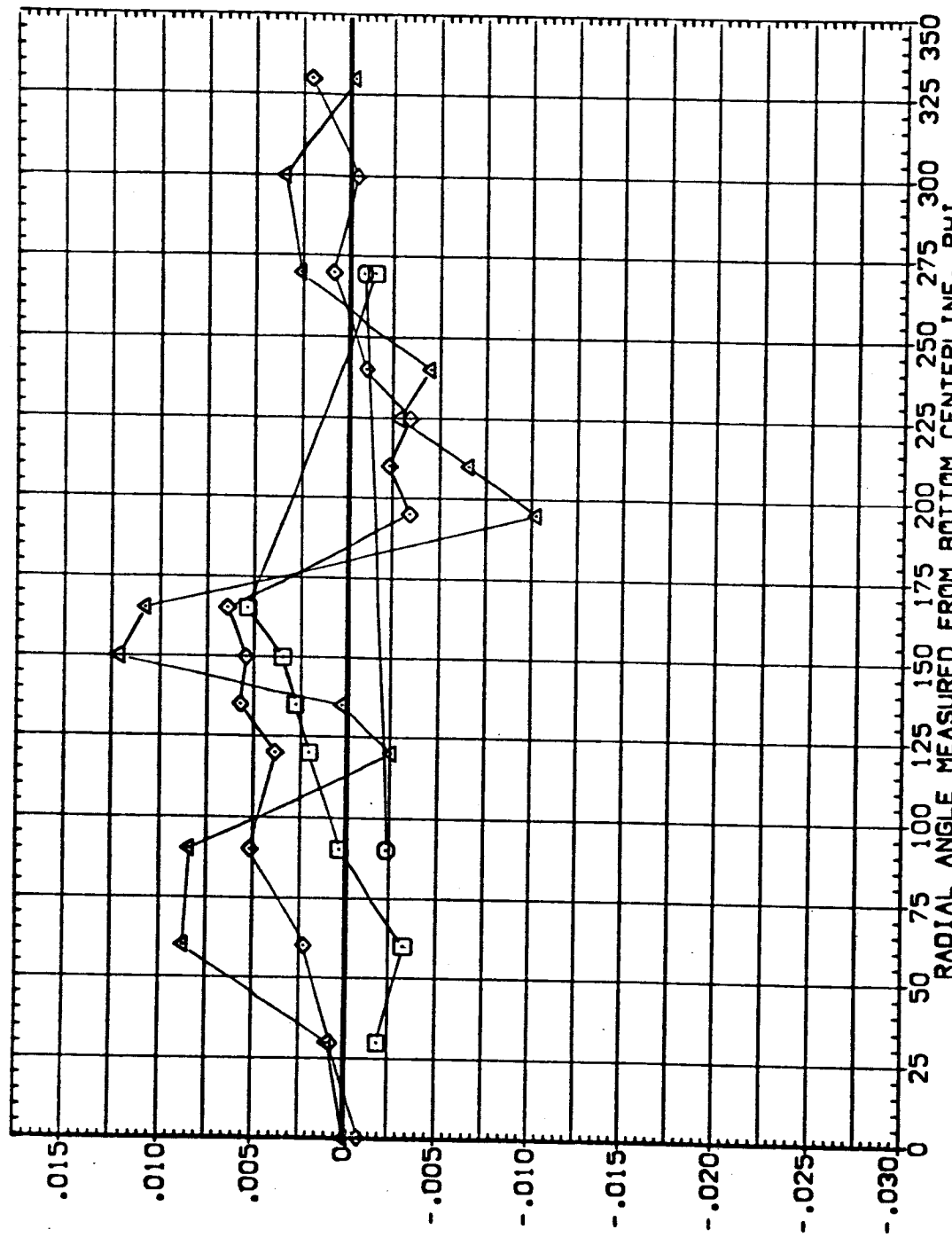


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
				RUDER	.000	MACH	1.100
				GIMBAL	1.000		

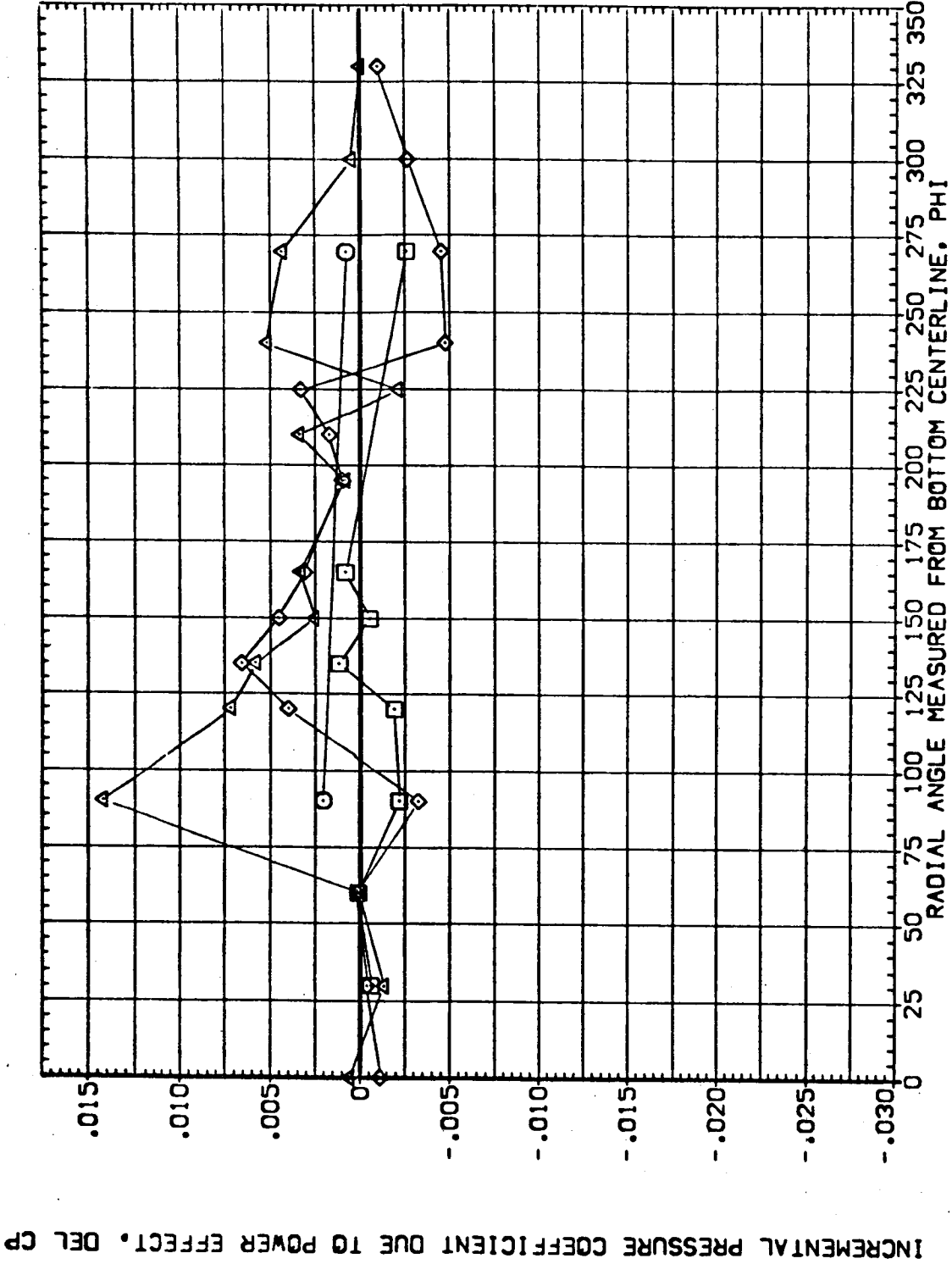


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK (FEUT14)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-19	ELV-09	MACH	
○	.634	-4.000	.000	RUDER	.000	1.000	4.000
□	.742			GIMBAL	1.000		1.100
◇	.851						
△	.986						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

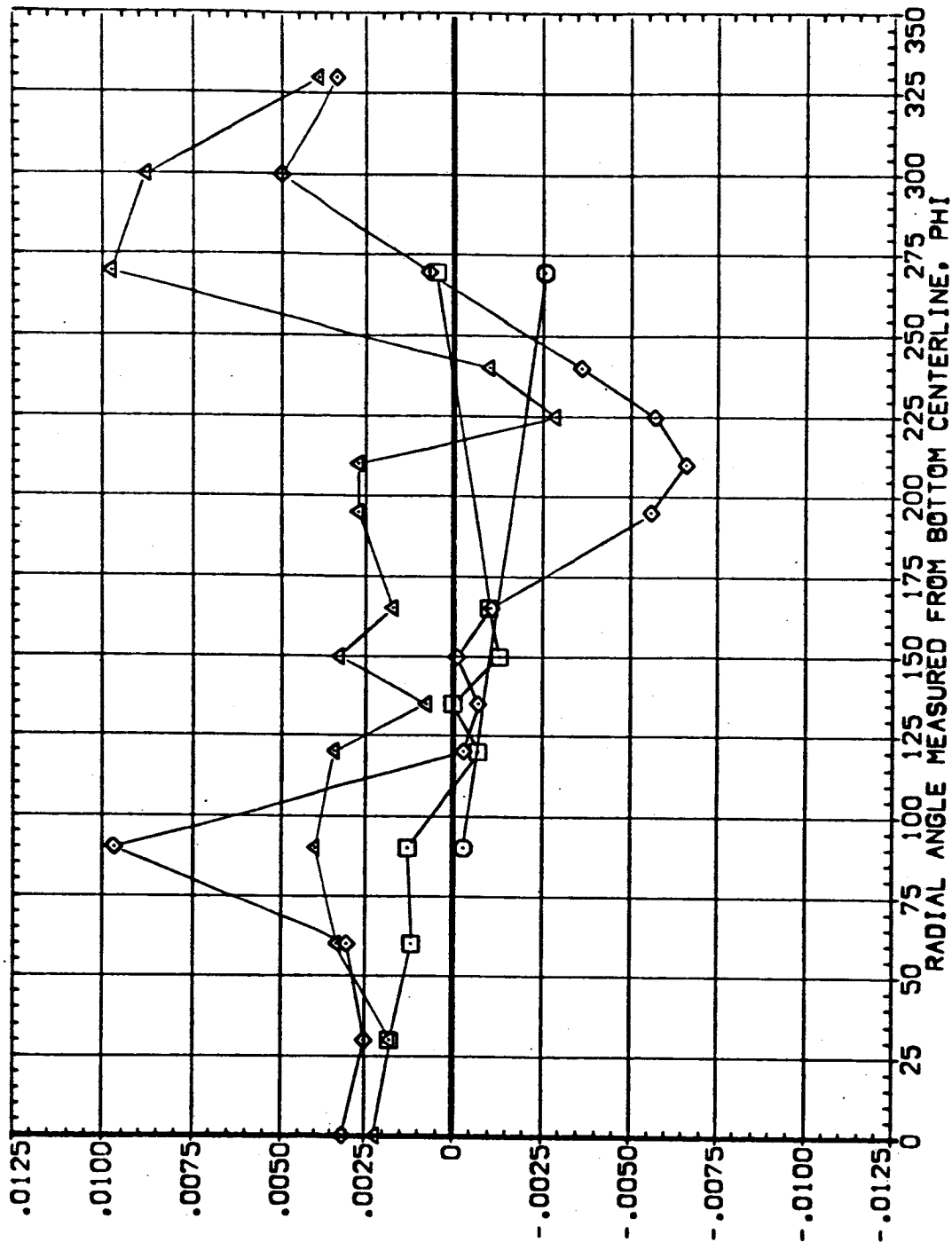


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
				RUDER	.000	1.000	
				GIMBAL	1.000		

○	.634	.000
□	.742	
◇	.851	
△	.986	

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

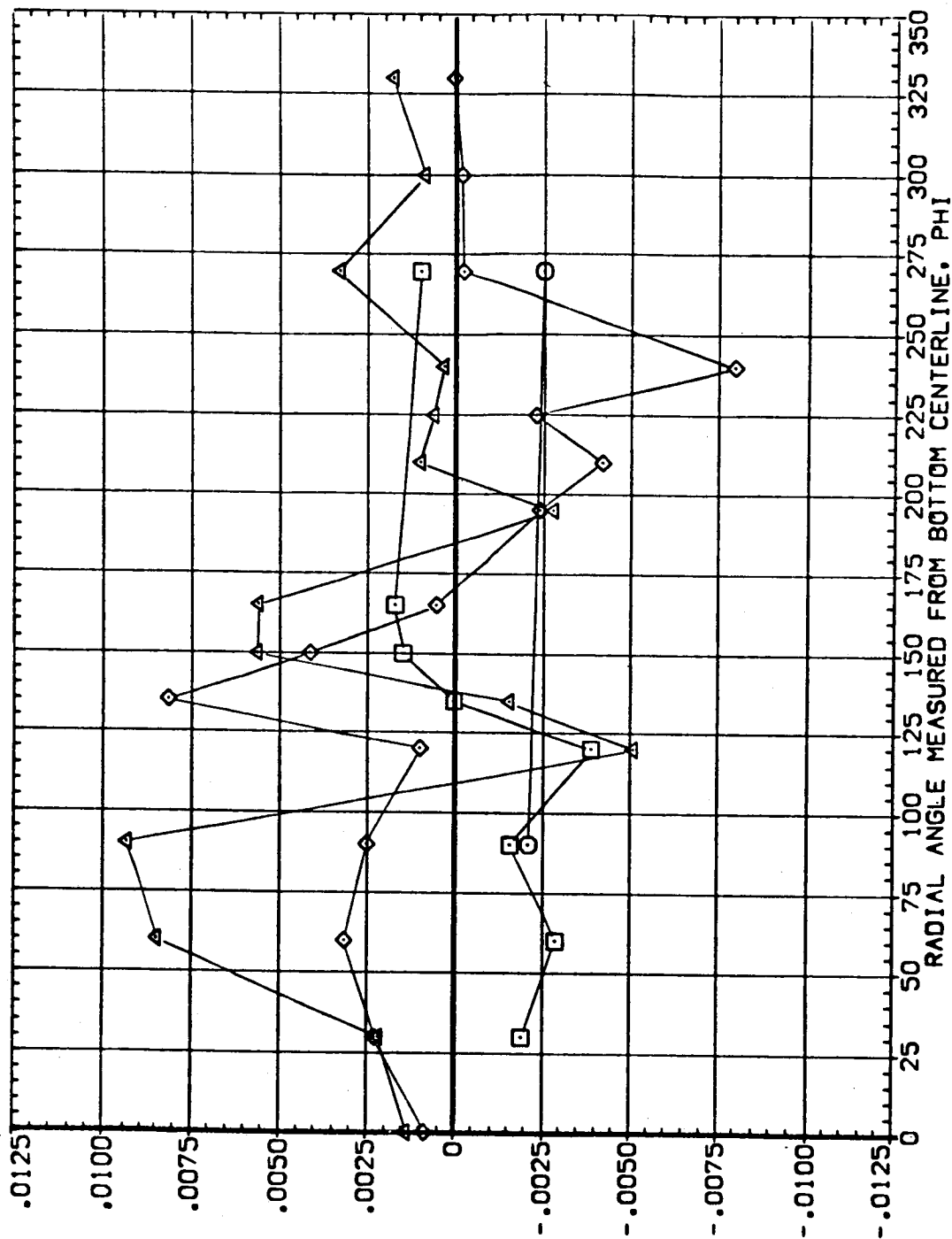


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(EUT15)

SYMBOL X/L BETA ALPHA

□ .534 .000 -4.000

◇ .742 .000 .000

△ .851 .000 .000

▽ .986 .000 .000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDER .000 MACH 1.250

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

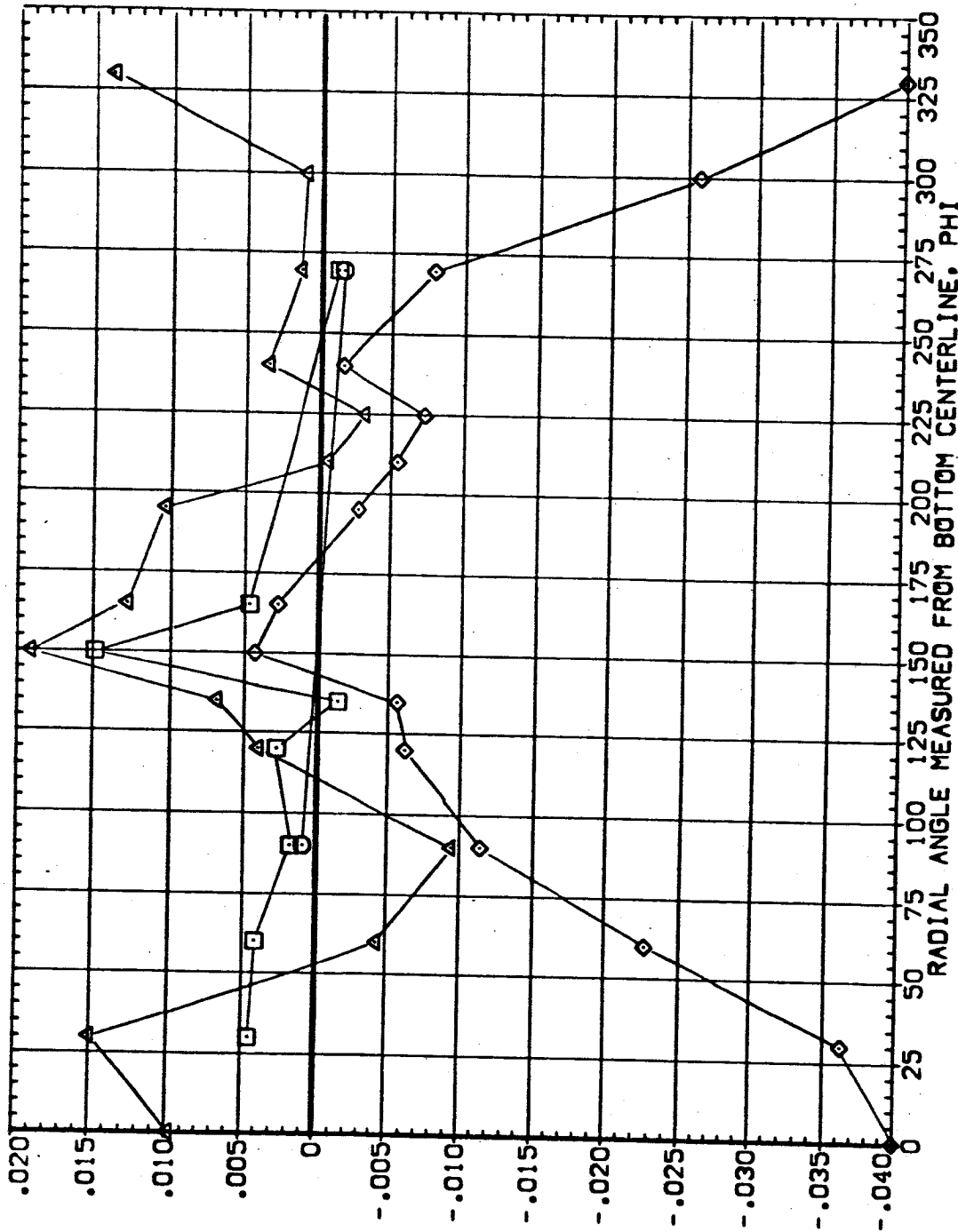


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK (EUT15)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-09	MACH	
○	.634	.000	.000	RUDDER	1.000	1.000	
□	.742			GIMBAL			
◇	.851						
△	.986						

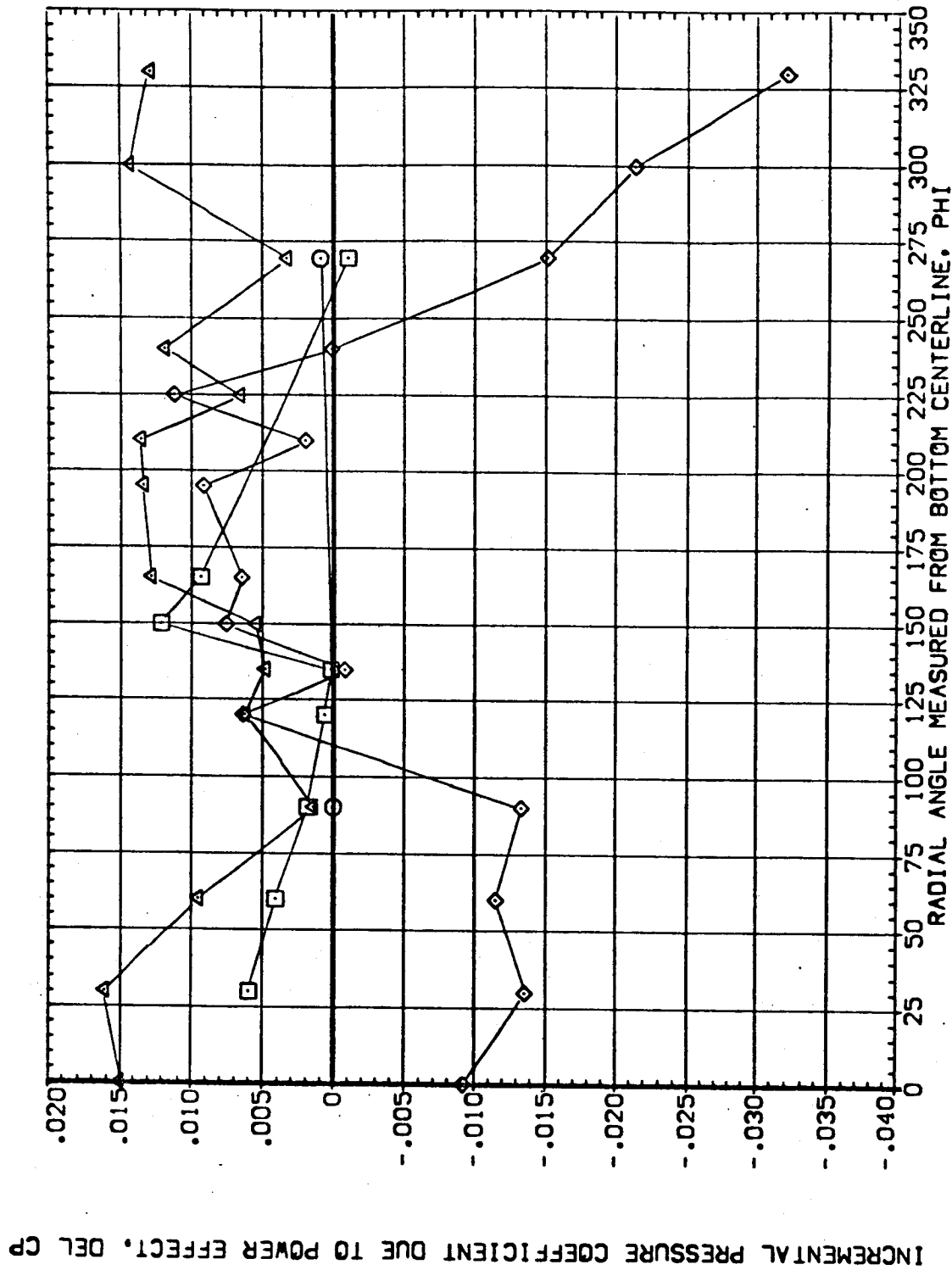


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(EET15)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
□	.634	.000	4.000		8.000	1.000	4.000
◇	.742			RUDER	.000		1.250
△	.851			GIMBAL	1.000		
◇	.986						

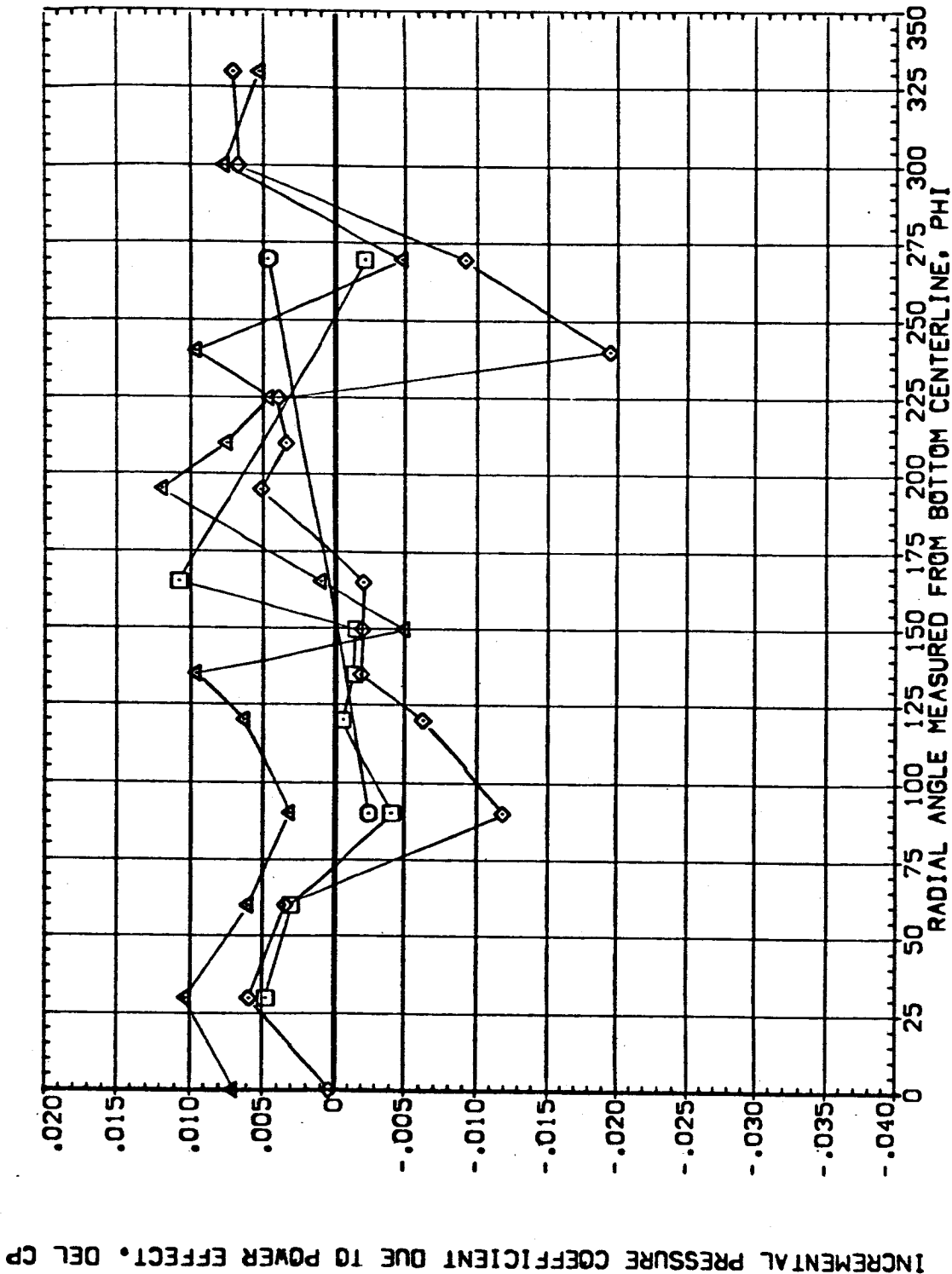


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(FEUT15)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-1B	ELV-08	MACH	
○	.634	-4.000	.000	8.000	1.000	1.000	4.000
□	.742			RUDDER			1.250
◇	.651			GIMBAL			
△	.986						

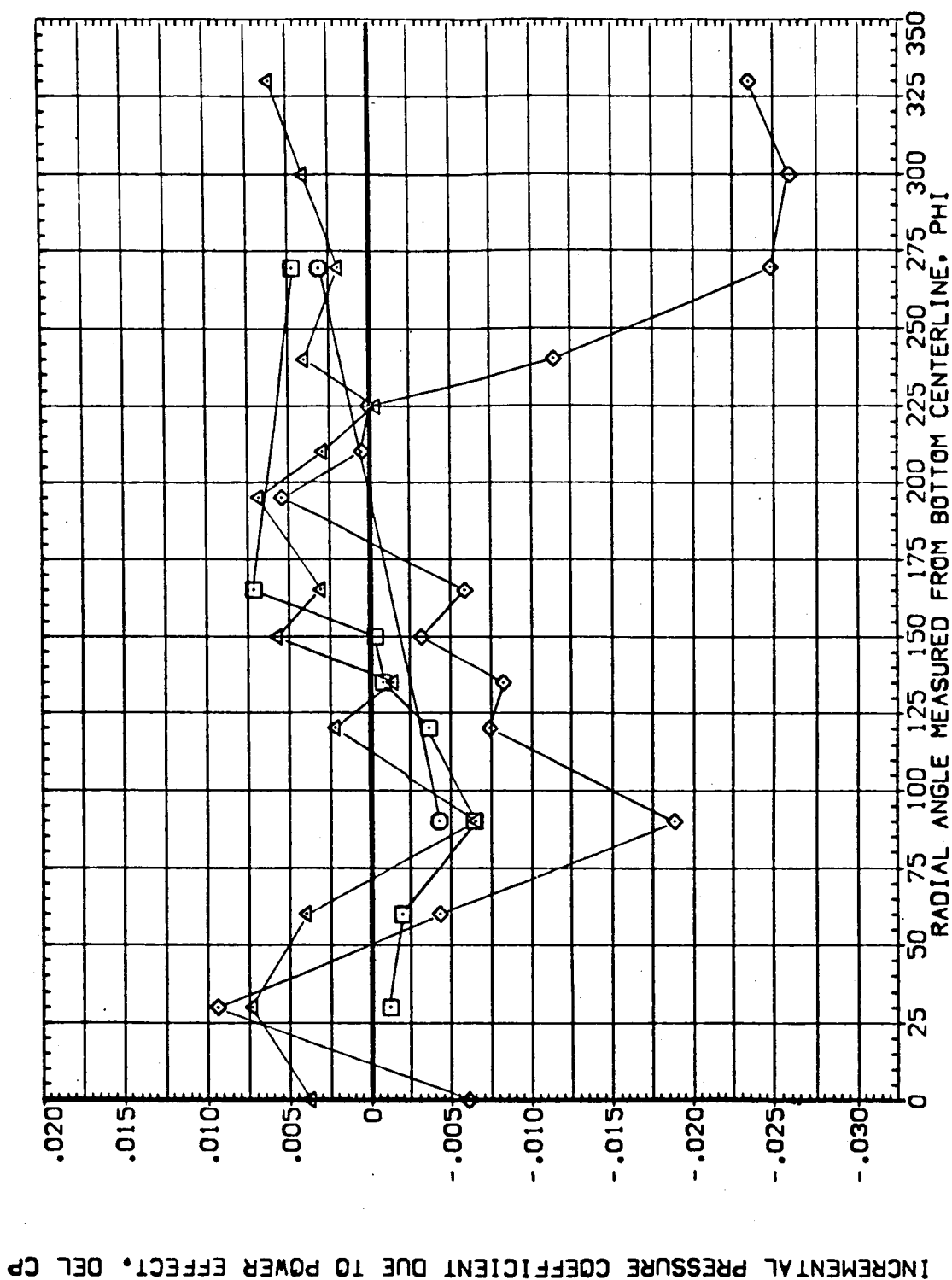


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(FEUT15)

Symbol	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
◇	.634	4.000	.000	RUDER	.000	1.000	4.000
□	.742			GIMBAL	1.000		1.250
△	.891						
○	.986						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

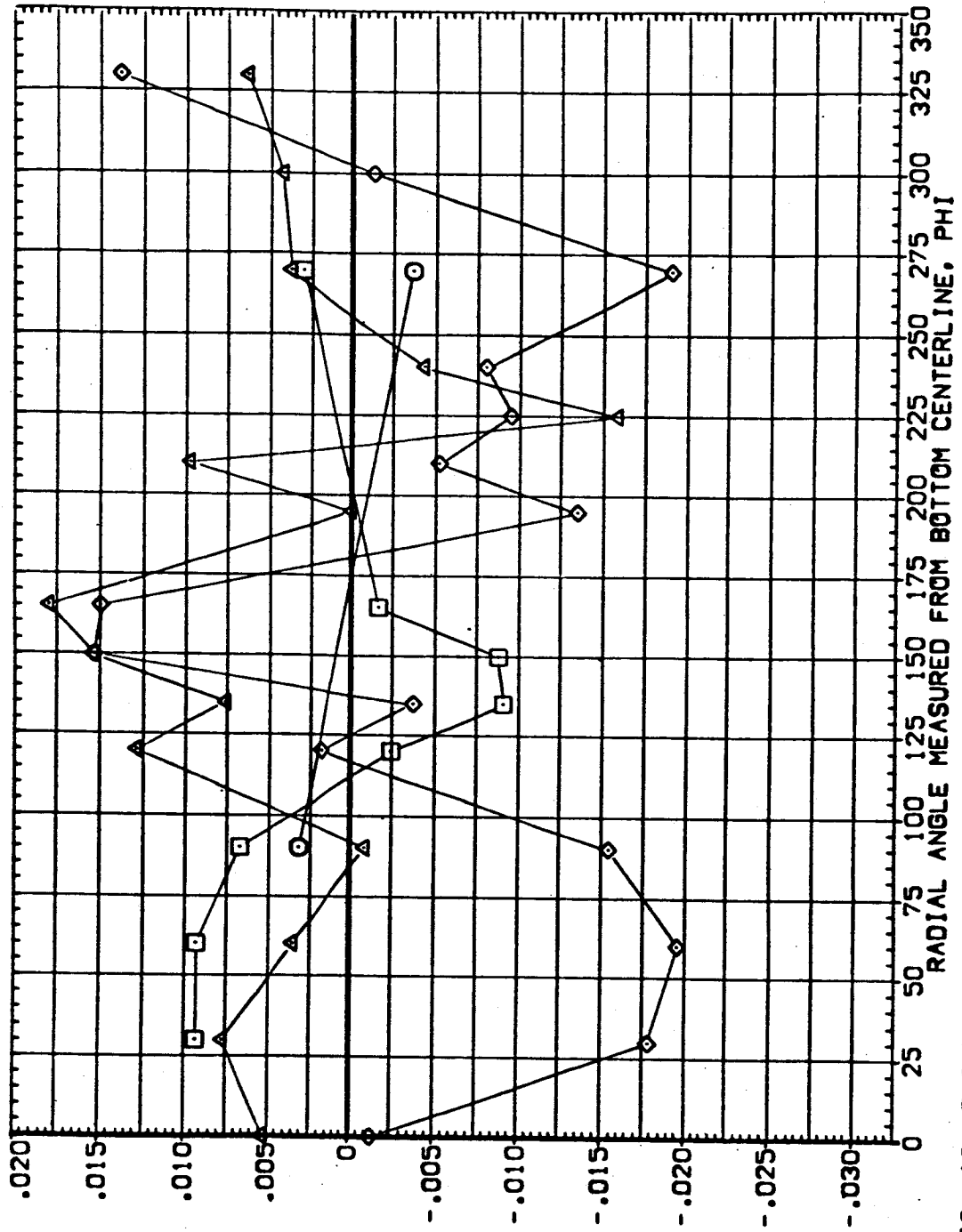


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
□	.634	.000	-4.000	RUDER	.000	1.000	1.000
◇	.742			GIMBAL			
△	.651						
△	.986						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

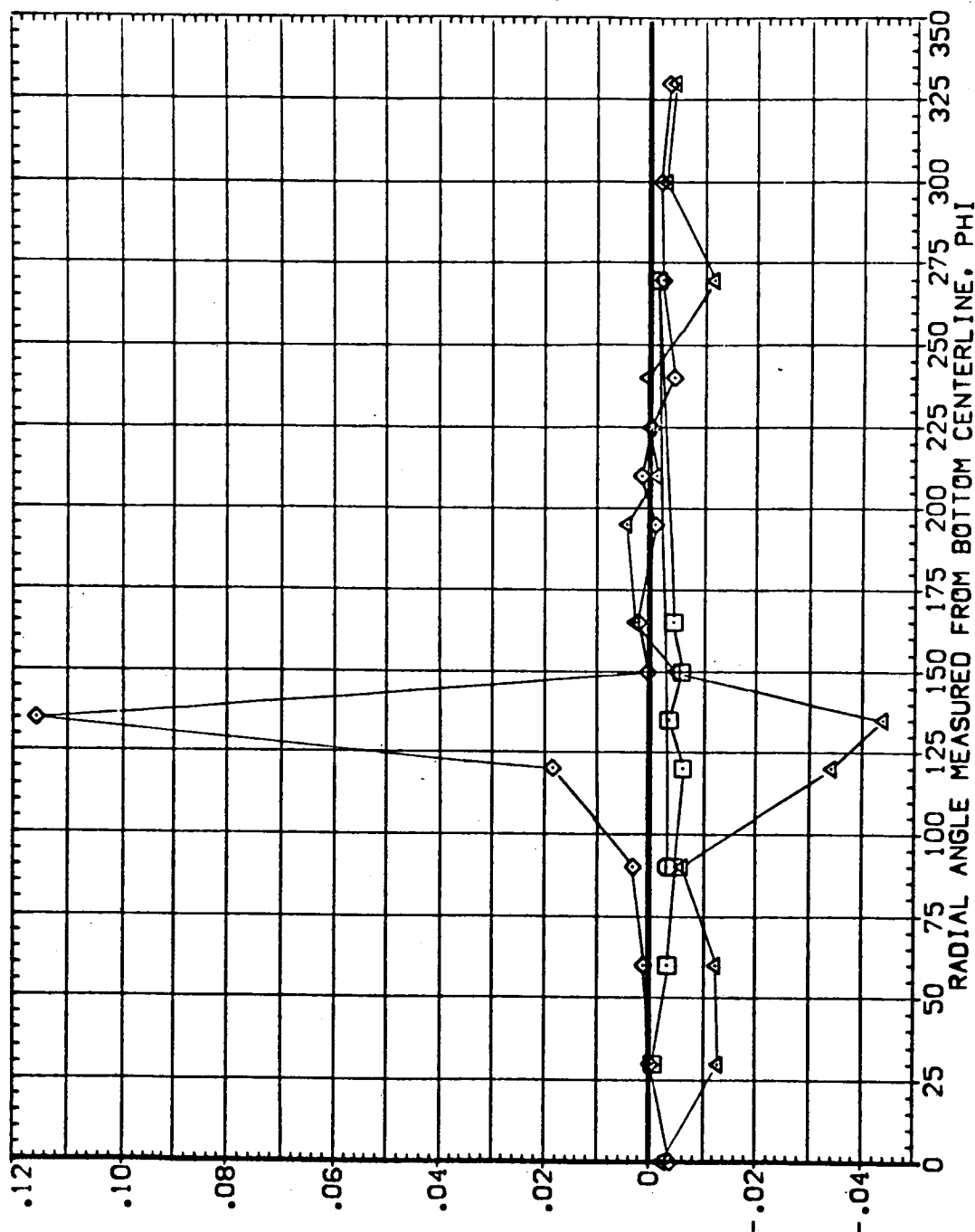


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(EAUT16)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
□	.634	.000	.000	RUDDER	.000	1.000	4.000
◇	.742			GIMBAL	1.000		1.400
△	.851						
▽	.986						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

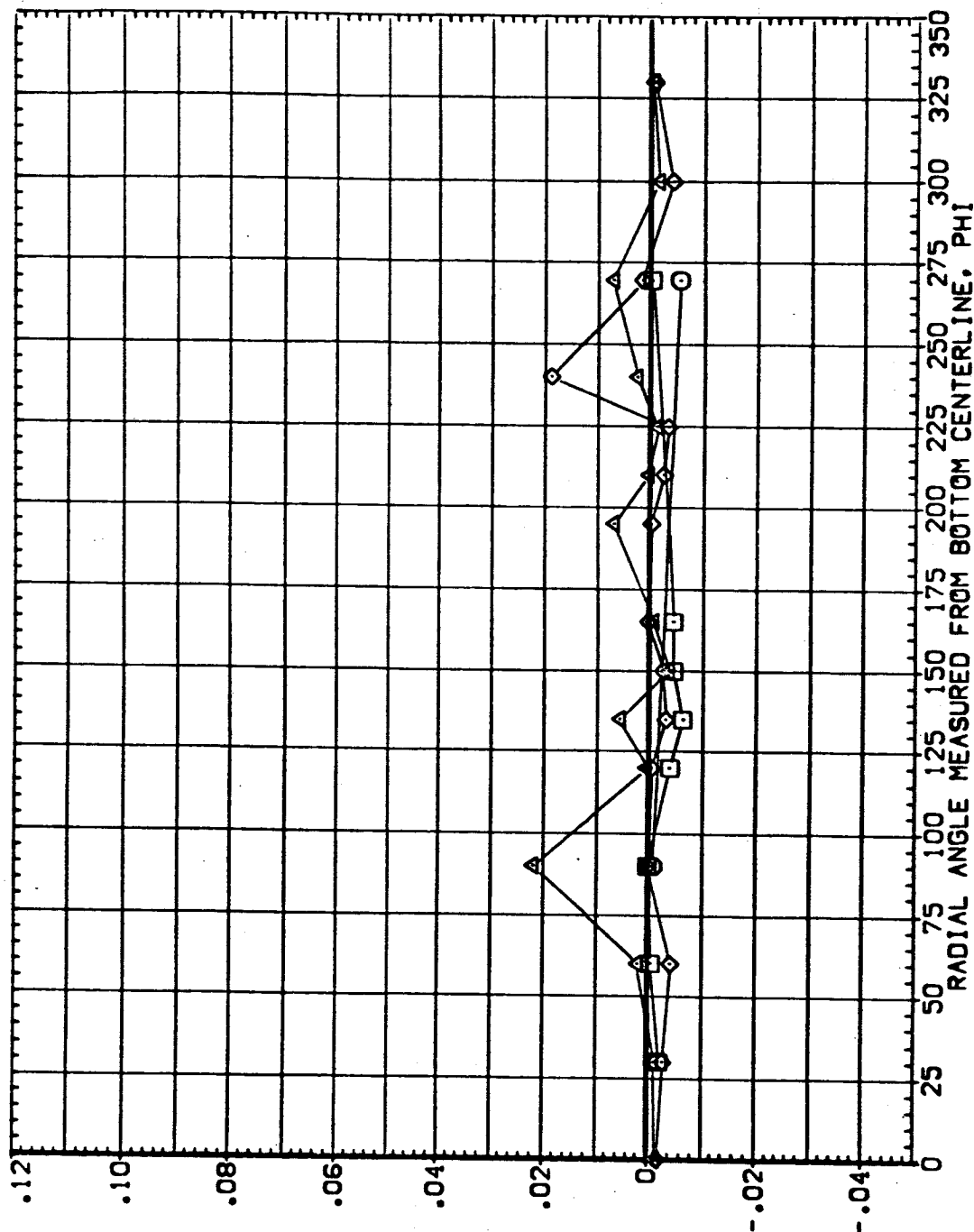


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(EAUT16)

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-09	MACH	
○	.634	.000	1.000	RUDER	.000	1.400	
◇	.742			GIMBAL	1.000		
△	.851						
▽	.906						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

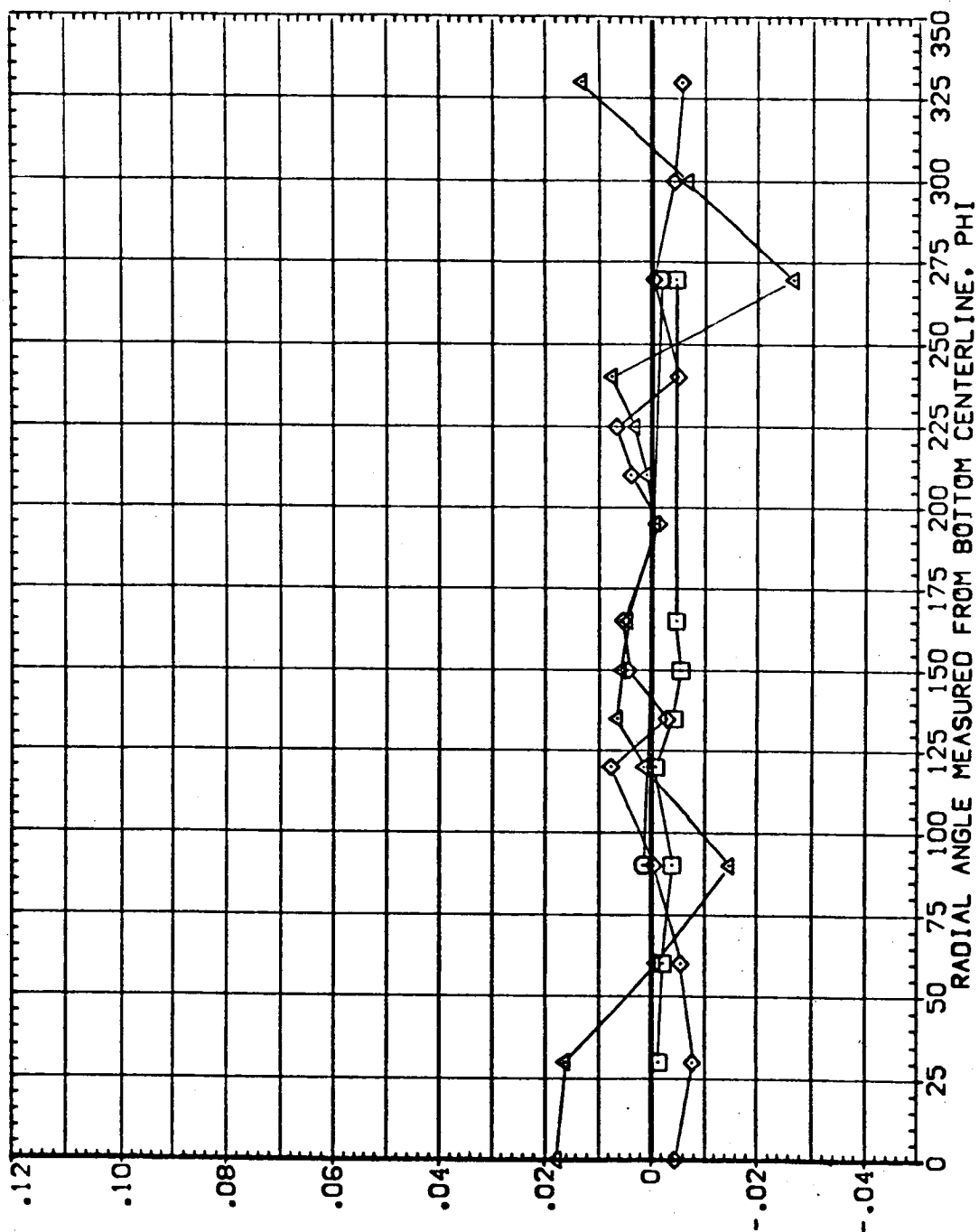


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF EXT TANK(FEUT16)

SYMBOL X/L BETA ALPHA

◇ .634
 ○ .742
 △ .851
 △ .986

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

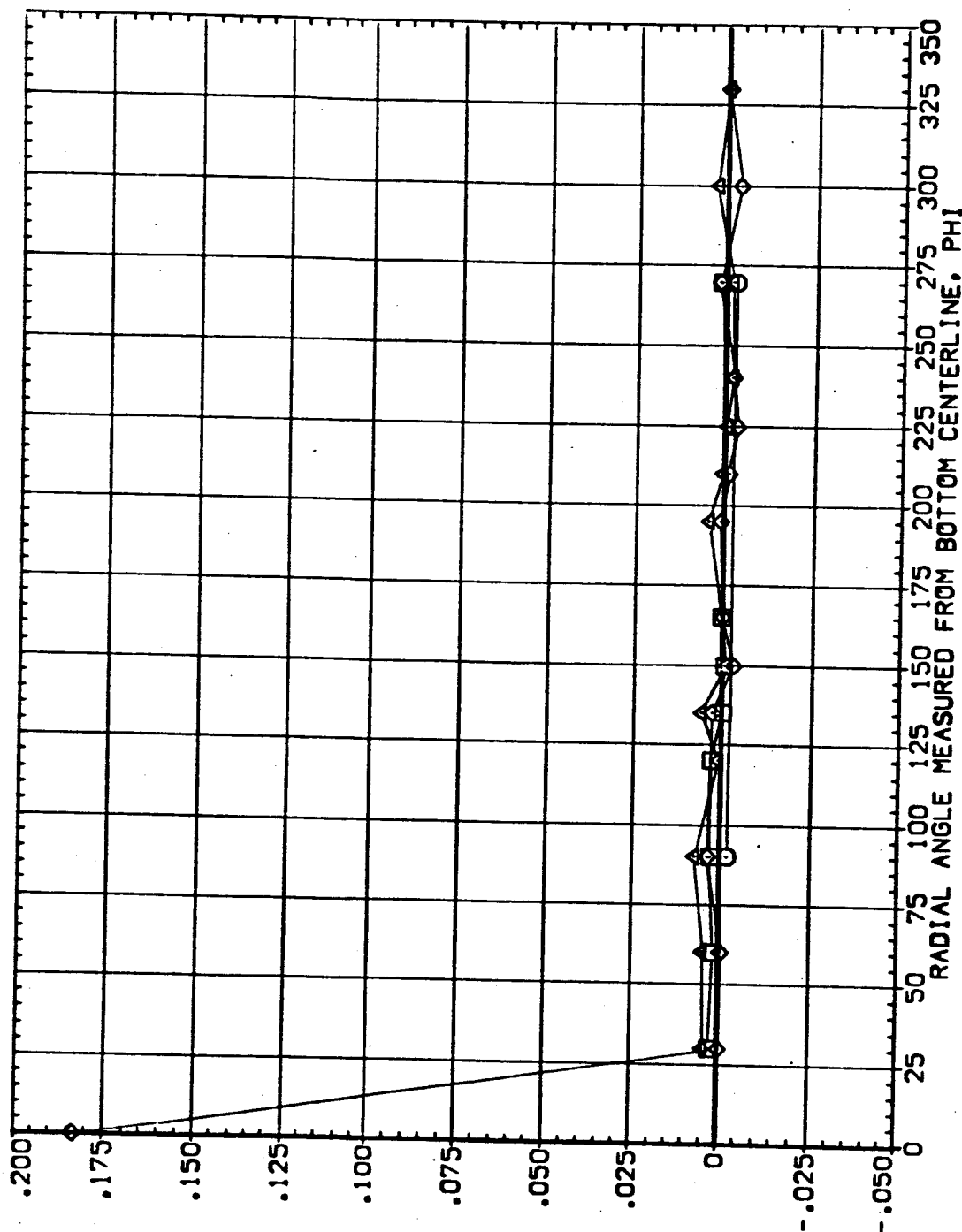


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

SYMBOL	X/L	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.634	1.000	.000	RUDER	.000	1.400	
□	.742			GIMBAL	1.000		
◇	.851						
△	.988						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

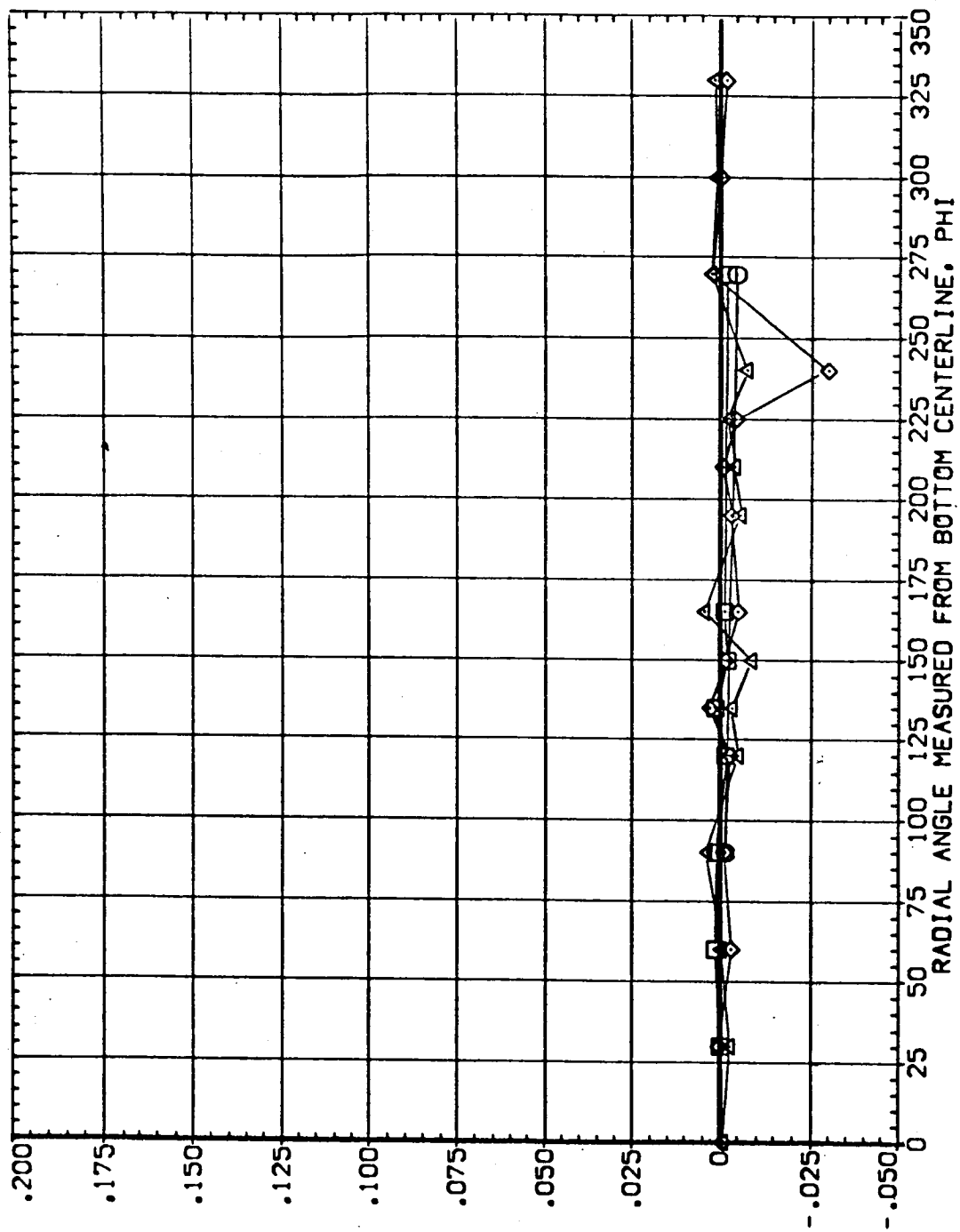


FIG. 104 EXTERNAL TANK DELTA CP/PLUME EFFECT NOMINAL SRB, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (BEUS01)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.000	.000	-4.000	RUDER	.000	1.000	
□	90.000			GIMBAL			
◇	180.000						
△	270.000						

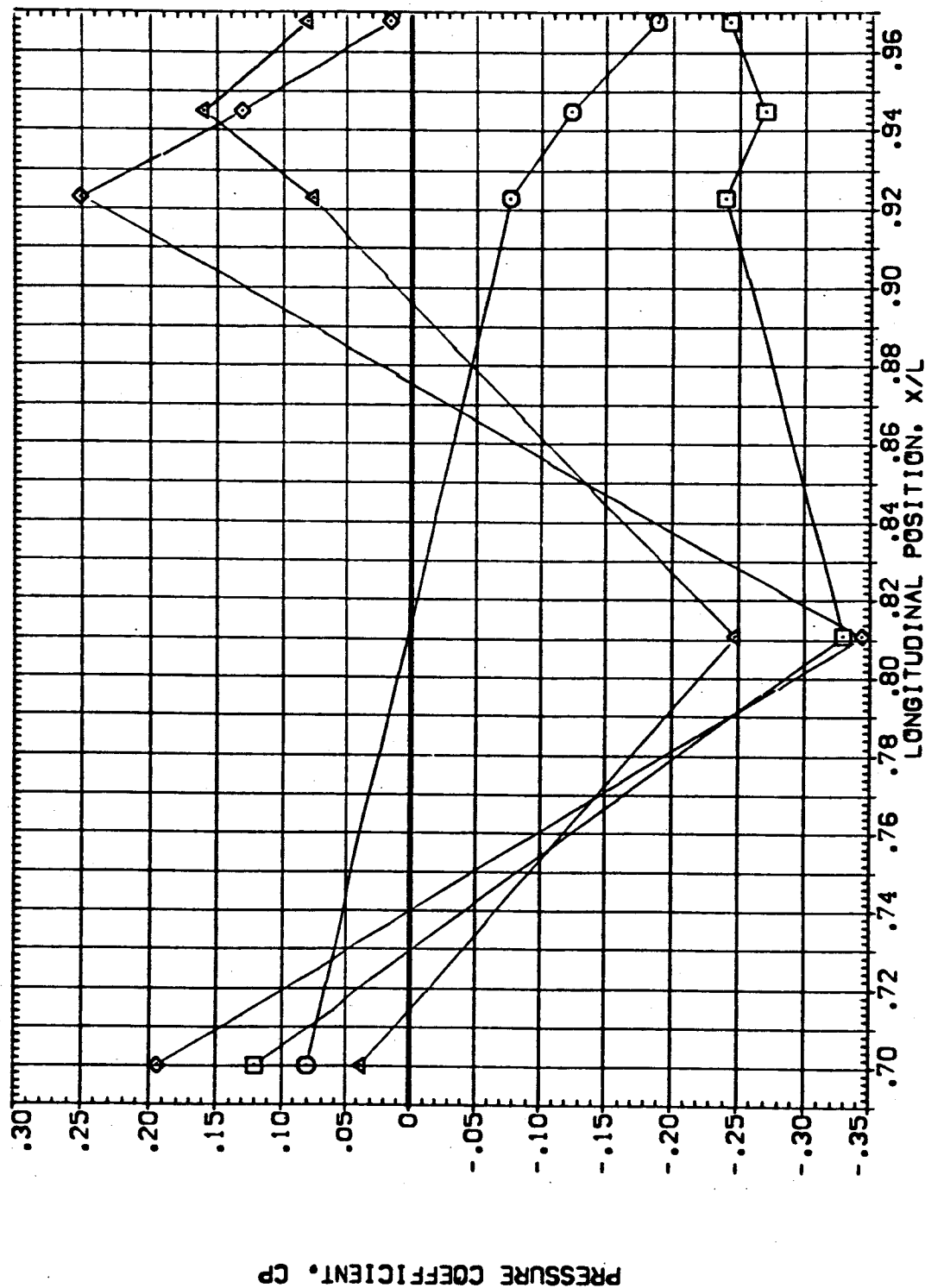


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (BEUS01)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES
○	.000	.000	.000	ELV-18 8.000 ELV-08 4.000
□	50.000			RUDER .000 MACH .500
◇	180.000			GIMBAL 1.000
△	270.000			

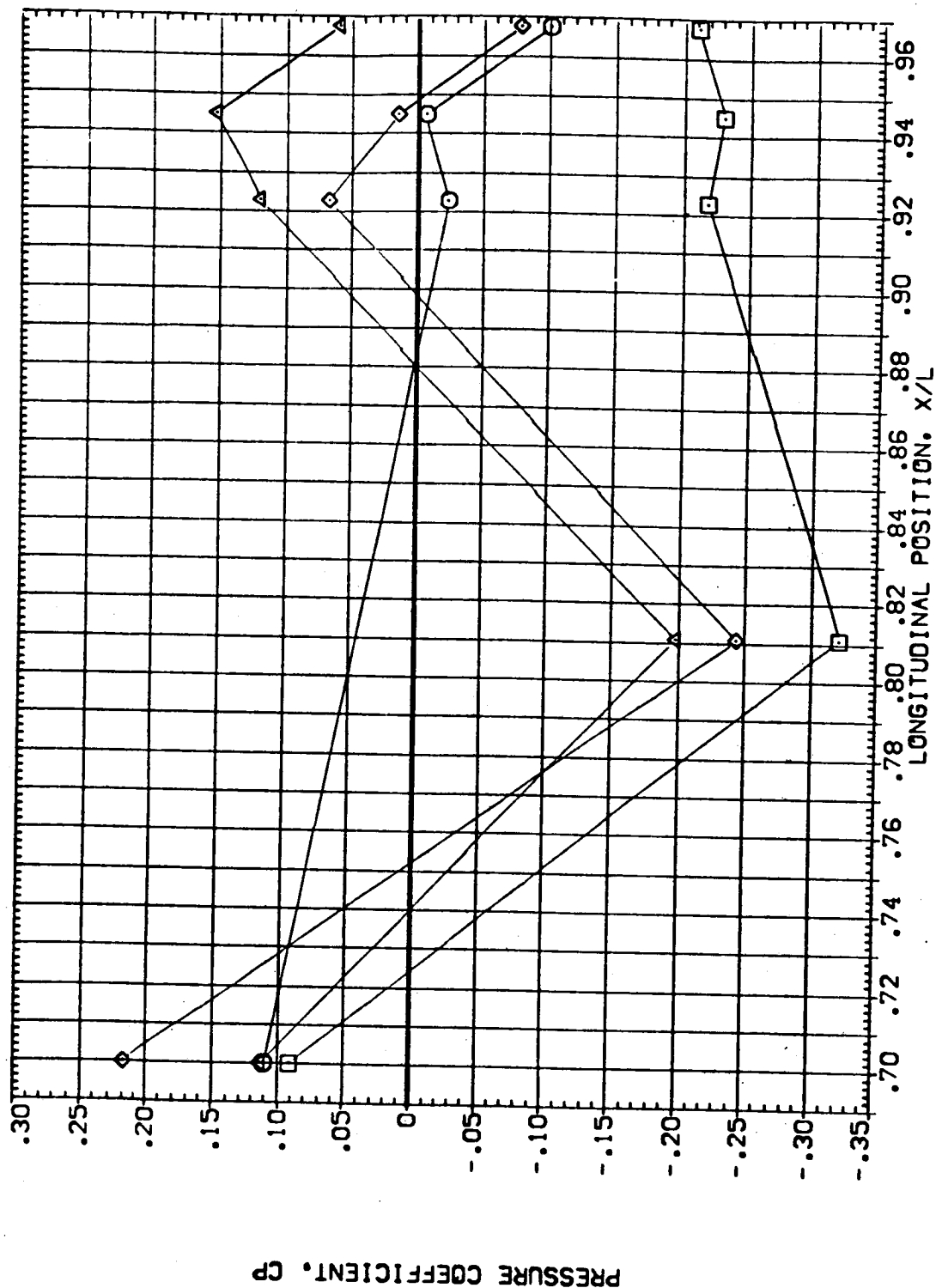


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (BEUS01)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.000	.000	4.000	8.000	8.000	1.000	4.000
□	90.000	.000	4.000	RUDDER	.000		.900
◇	180.000			GIMBAL	1.000		
△	270.000						

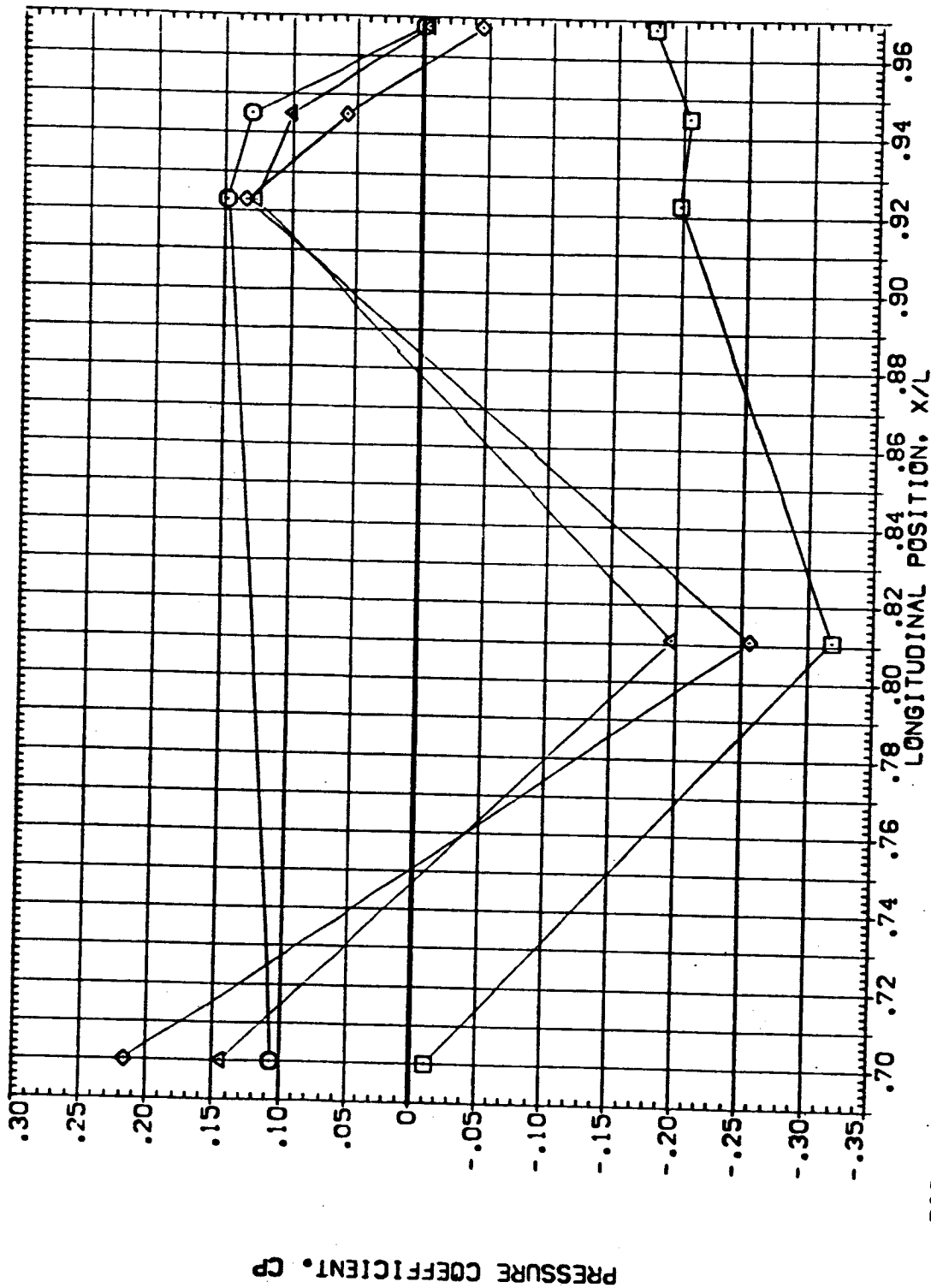


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES
○	.000	-4.000	.000	ELV-19 8.000 ELV-69 4.000
□	90.000			RUDER .000 MACH .900
◇	180.000			GIMBAL 1.000
△	270.000			

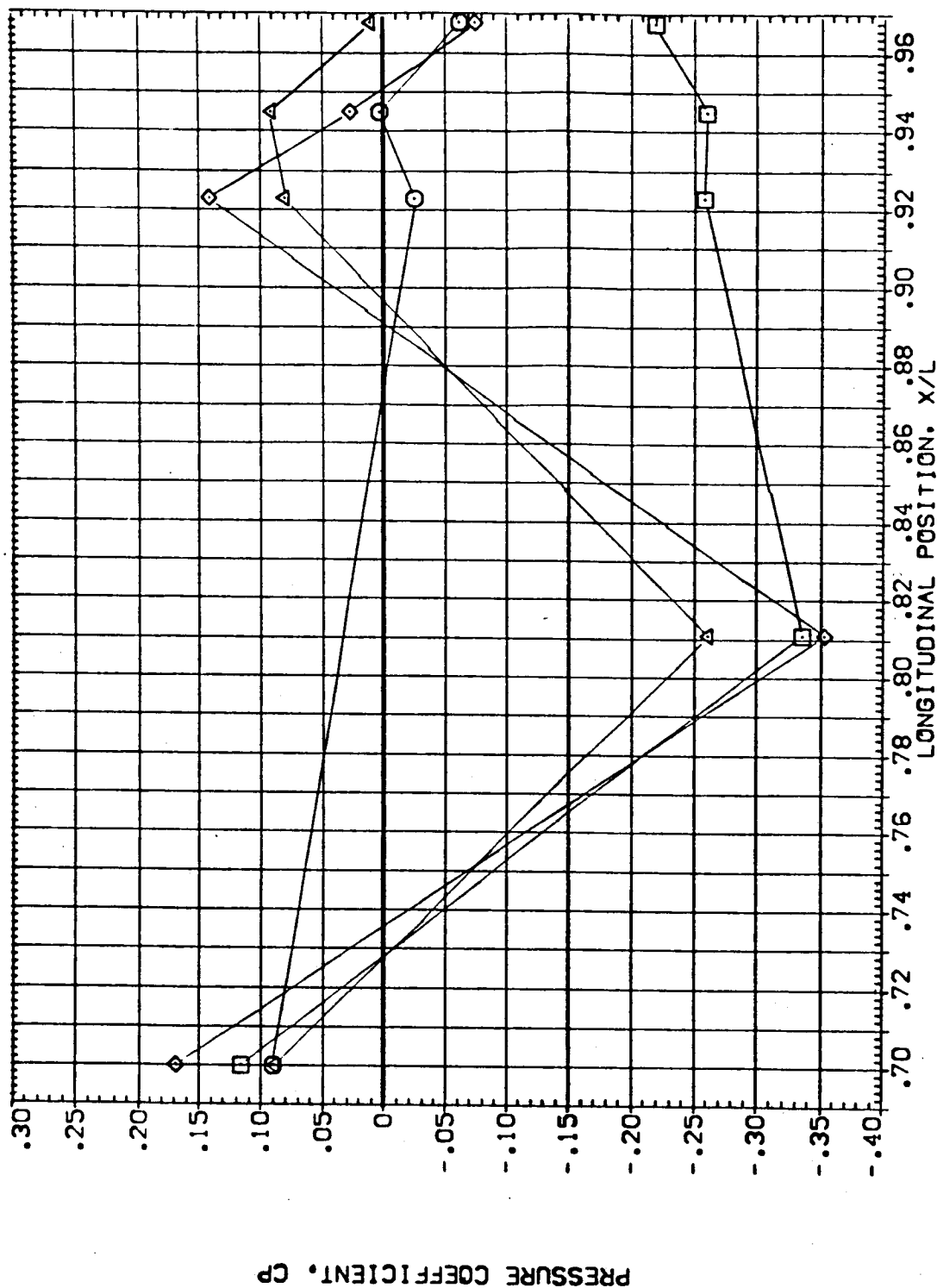


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY(CEUS01)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES
○	.000	1.000	.000	ELV-08 4.000
□	90.000			RUDER .000 MACH
◇	180.000			GIMBAL 1.000
△	270.000			

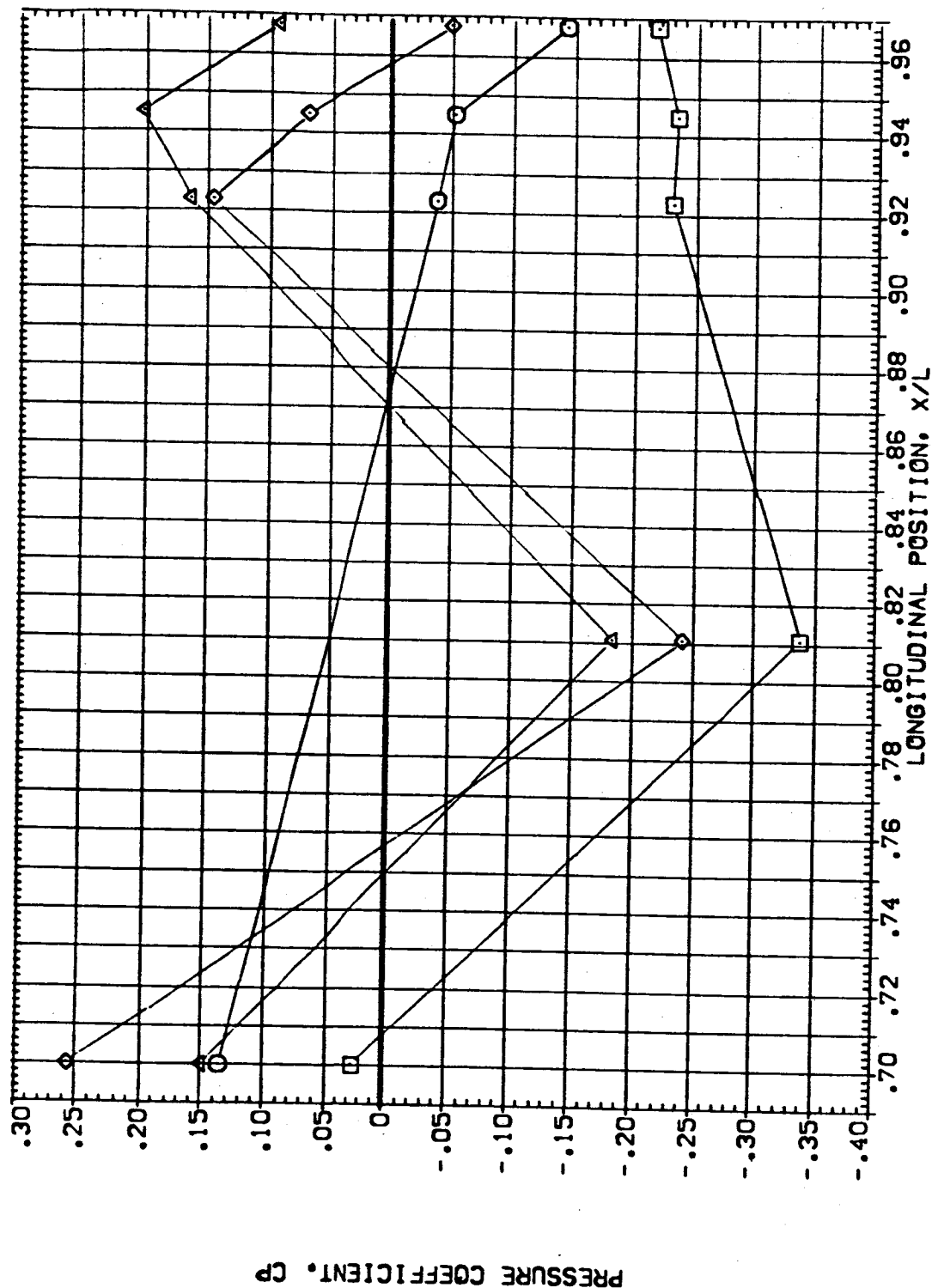


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYM	PHI	BETA	ALPHA	PARAMETRIC VALUES
○	.000	.000	-4.000	ELV-18
□	90.000			RUDER
◇	180.000			GIMBAL
△	270.000			
				8.000
				.000
				1.000
				4.000
				1.100

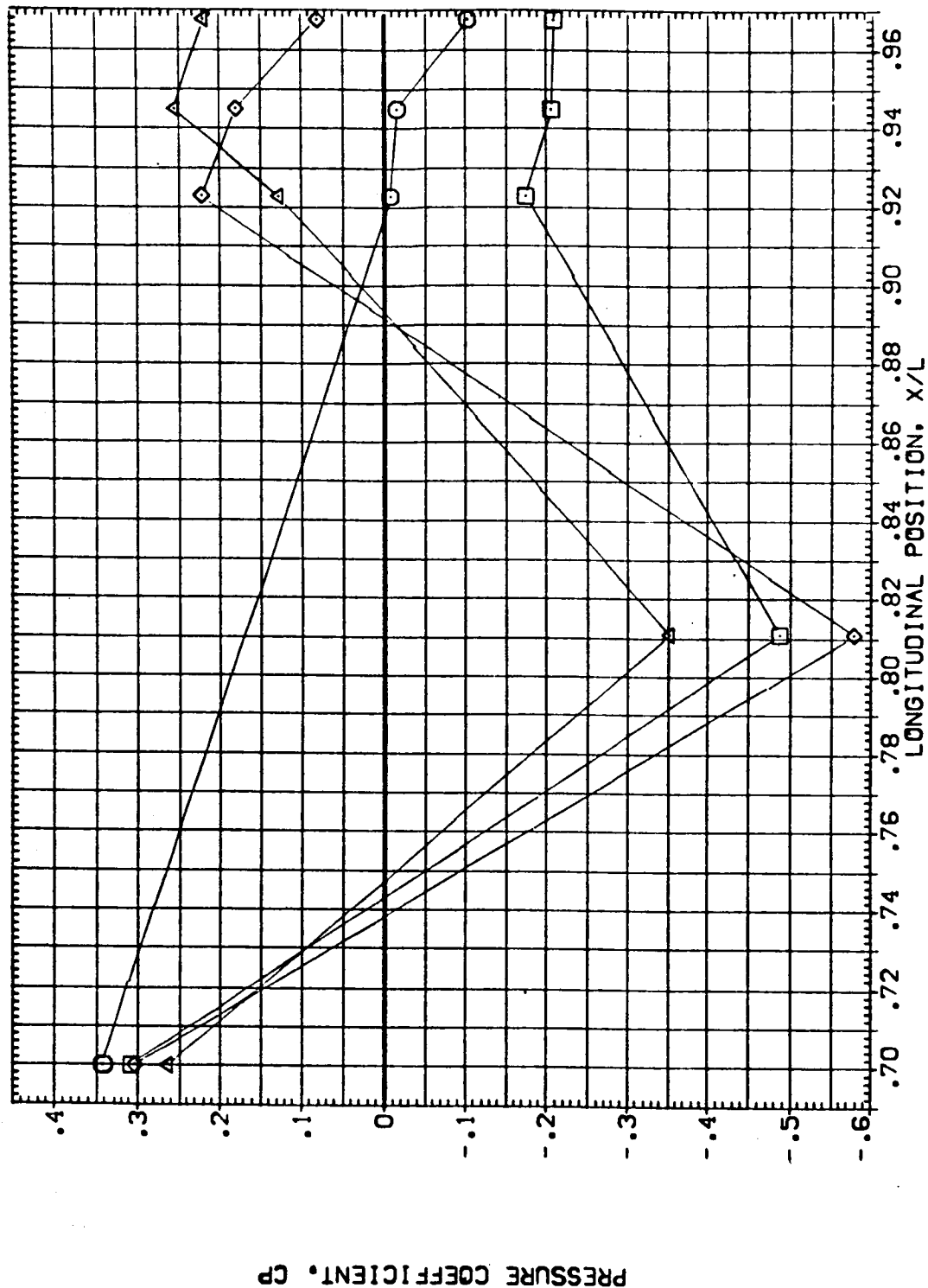


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (BEUS02)

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

SYMBOL PHI BETA ALPHA
 ○ .000 .000 .000
 □ 90.000
 ◇ 180.000
 △ 270.000

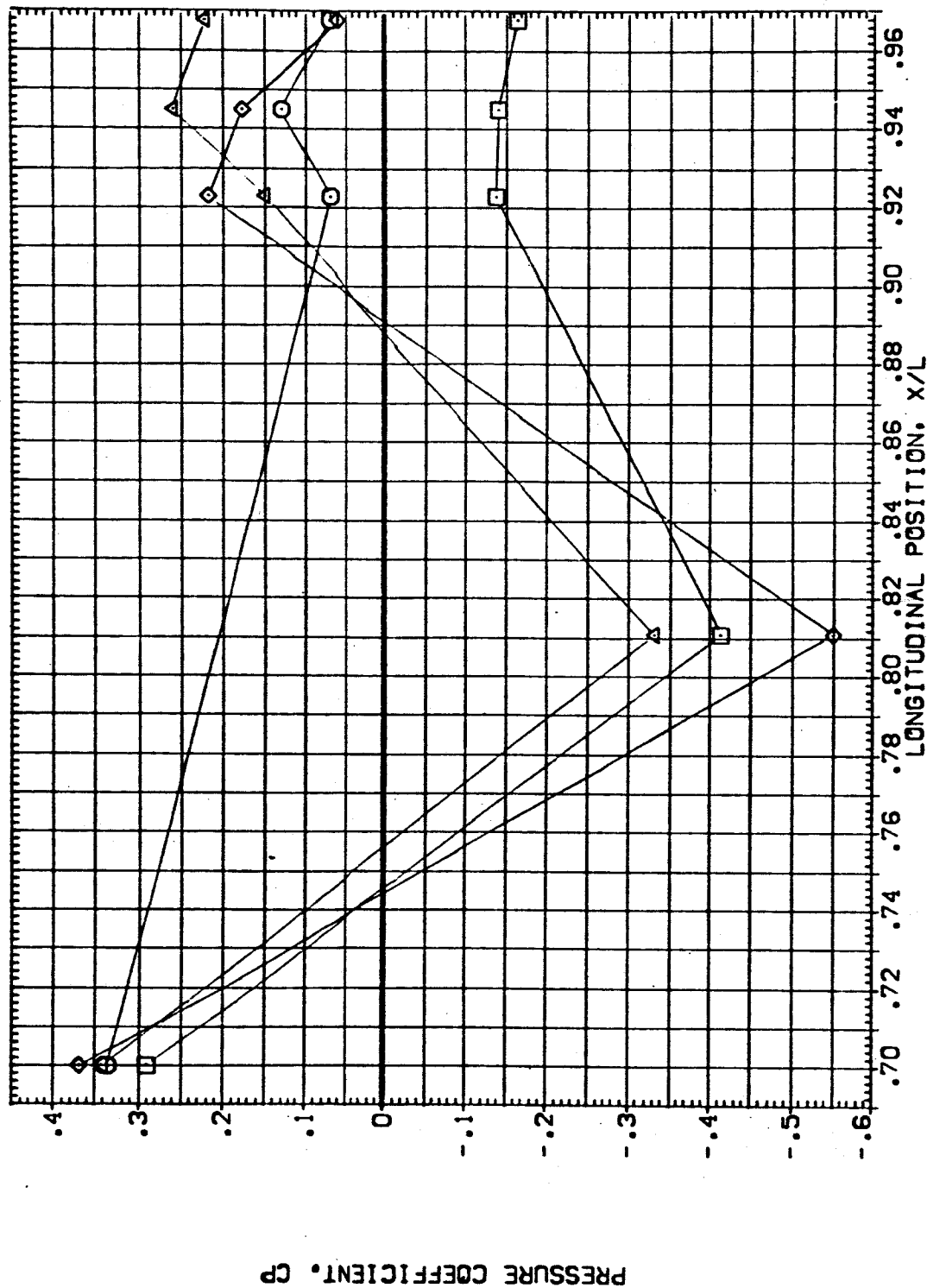


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (BEUS02)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.000	.000	4.000	RUDER	.000	1.100	
□	90.000			GIMBAL	1.000		
◇	180.000						
△	270.000						

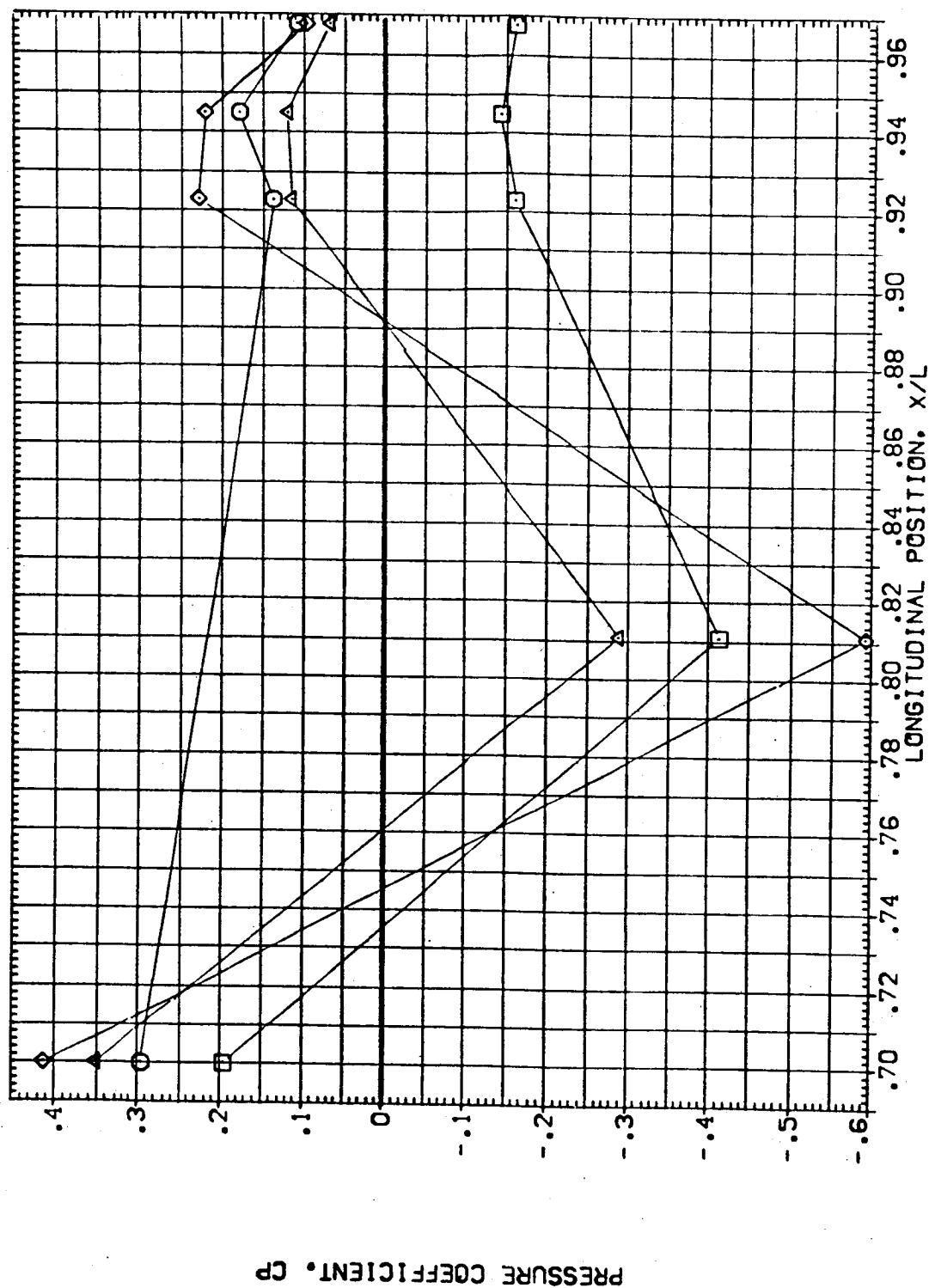


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (CEUS02)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.000	-4.000	.000	RUDER	.000	1.000	4.000
□	90.000			GIMBAL	1.000		1.100
◇	180.000						
△	270.000						

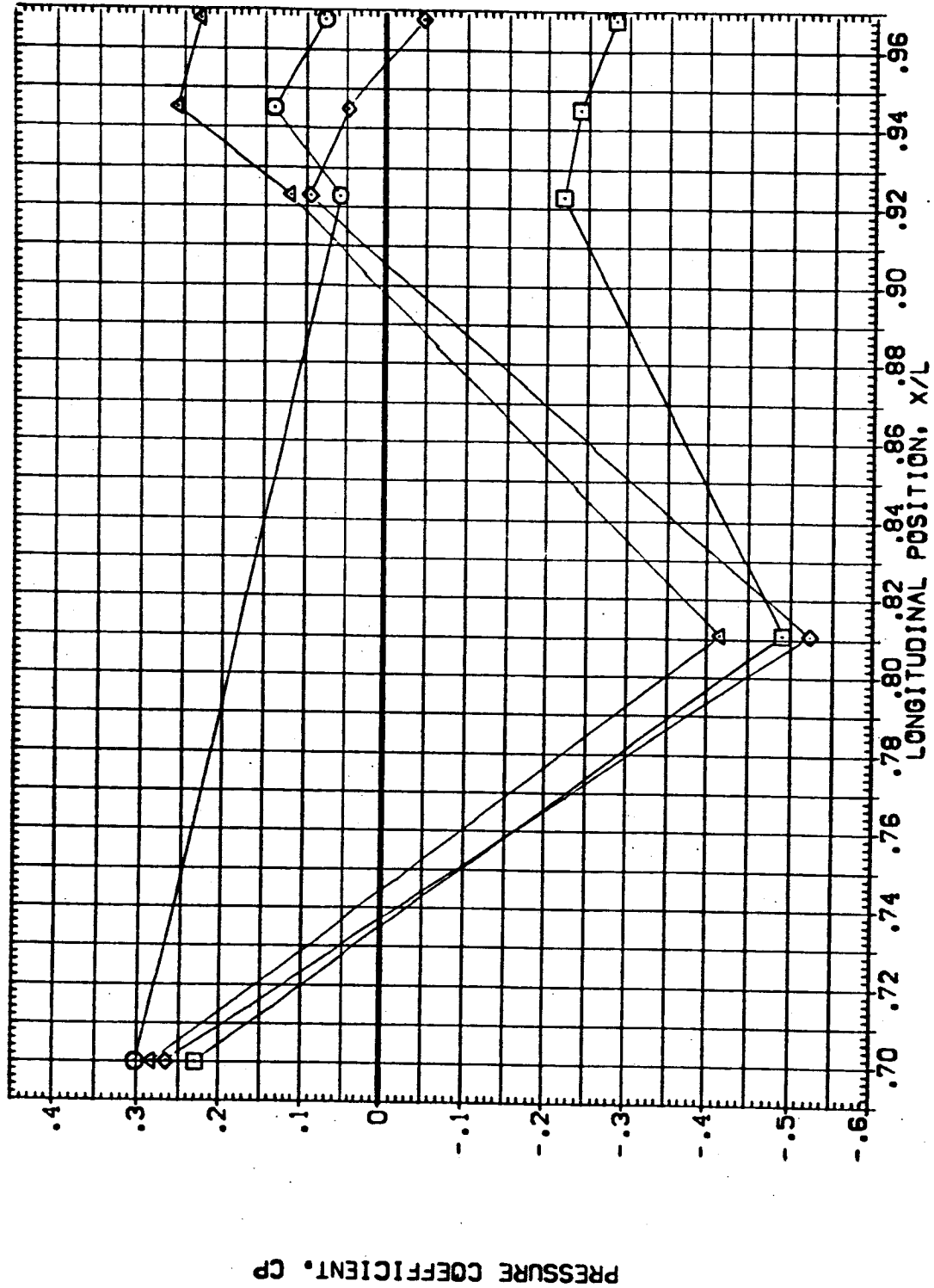


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (CEUS02)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.000	4.000	.000	RUDER	.000	1.000	4.000
□	90.000			GIMBAL	1.000		1.100
◇	180.000						
△	270.000						

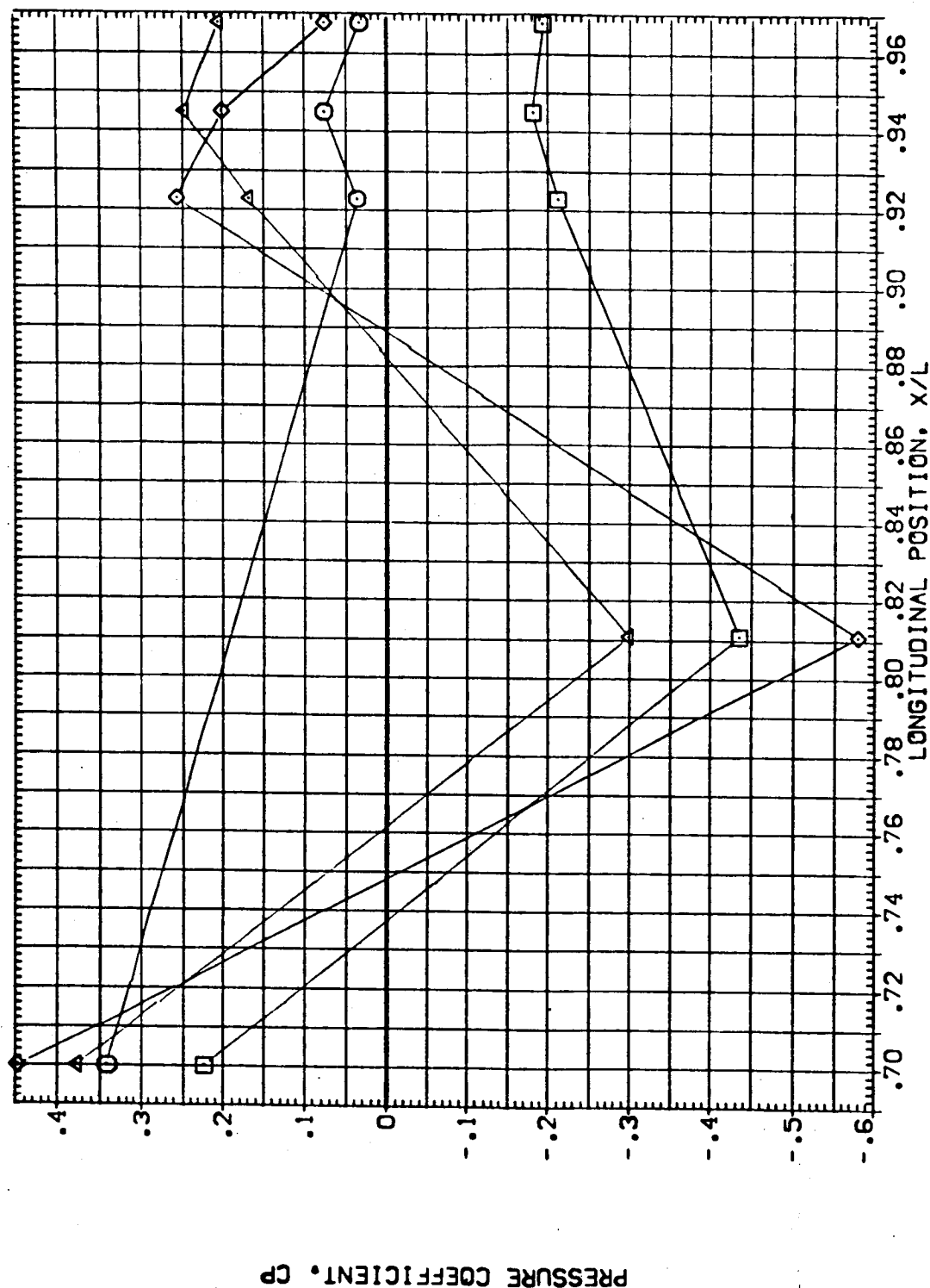


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (BEUS03)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.000	.000	-4.000	RUDER	.000	1.000	1.000
□	90.000			GIMBAL	1.000		1.250
◇	180.000						
△	270.000						

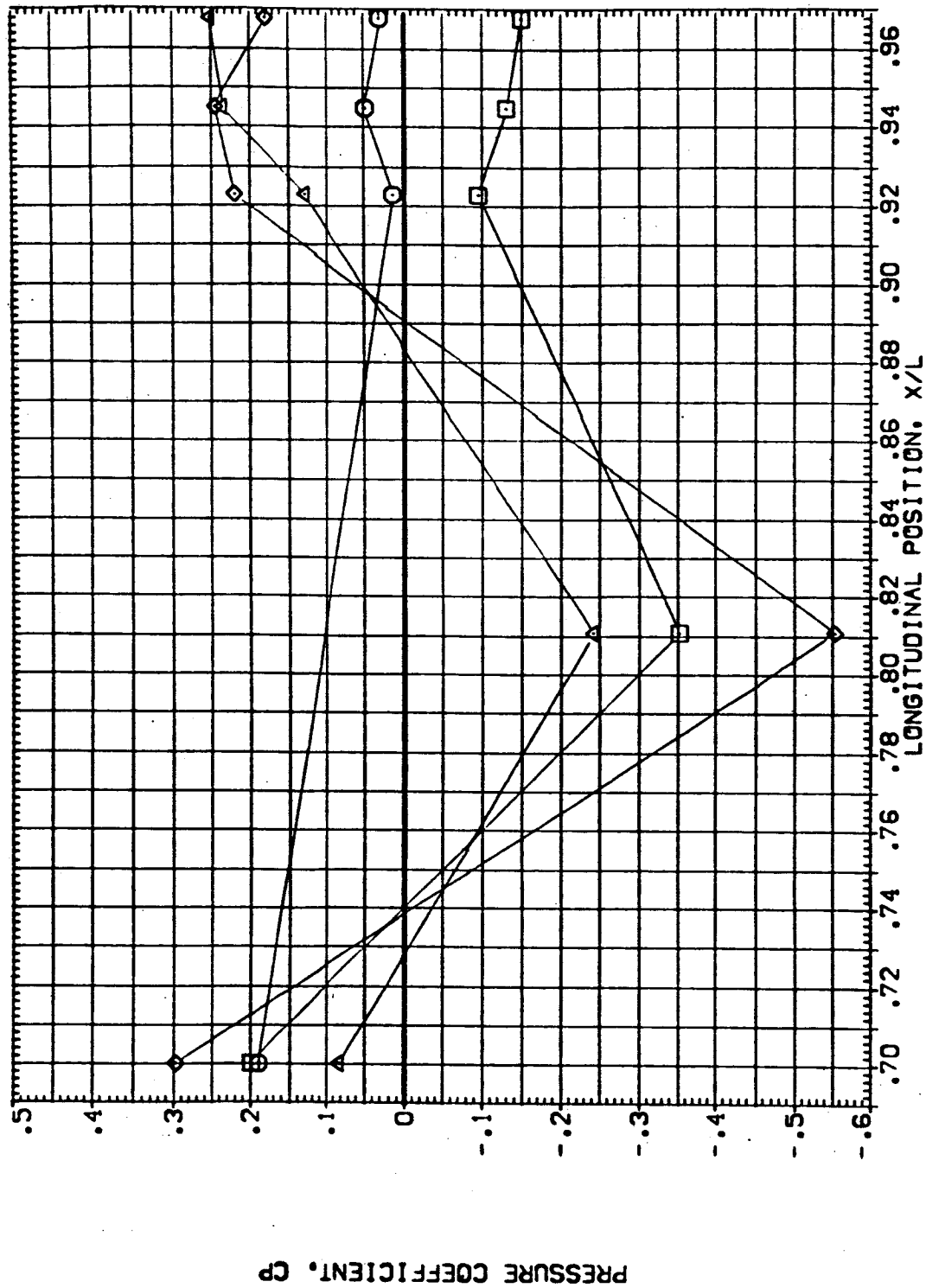


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	PHI	BETA	ALPHA	ELV-18	ELV-08	PARAMETRIC VALUES
○	.000	.000	.000	RUDER	.000	MACH
□	90.000			GIMBAL	1.000	
◇	180.000					
△	270.000					

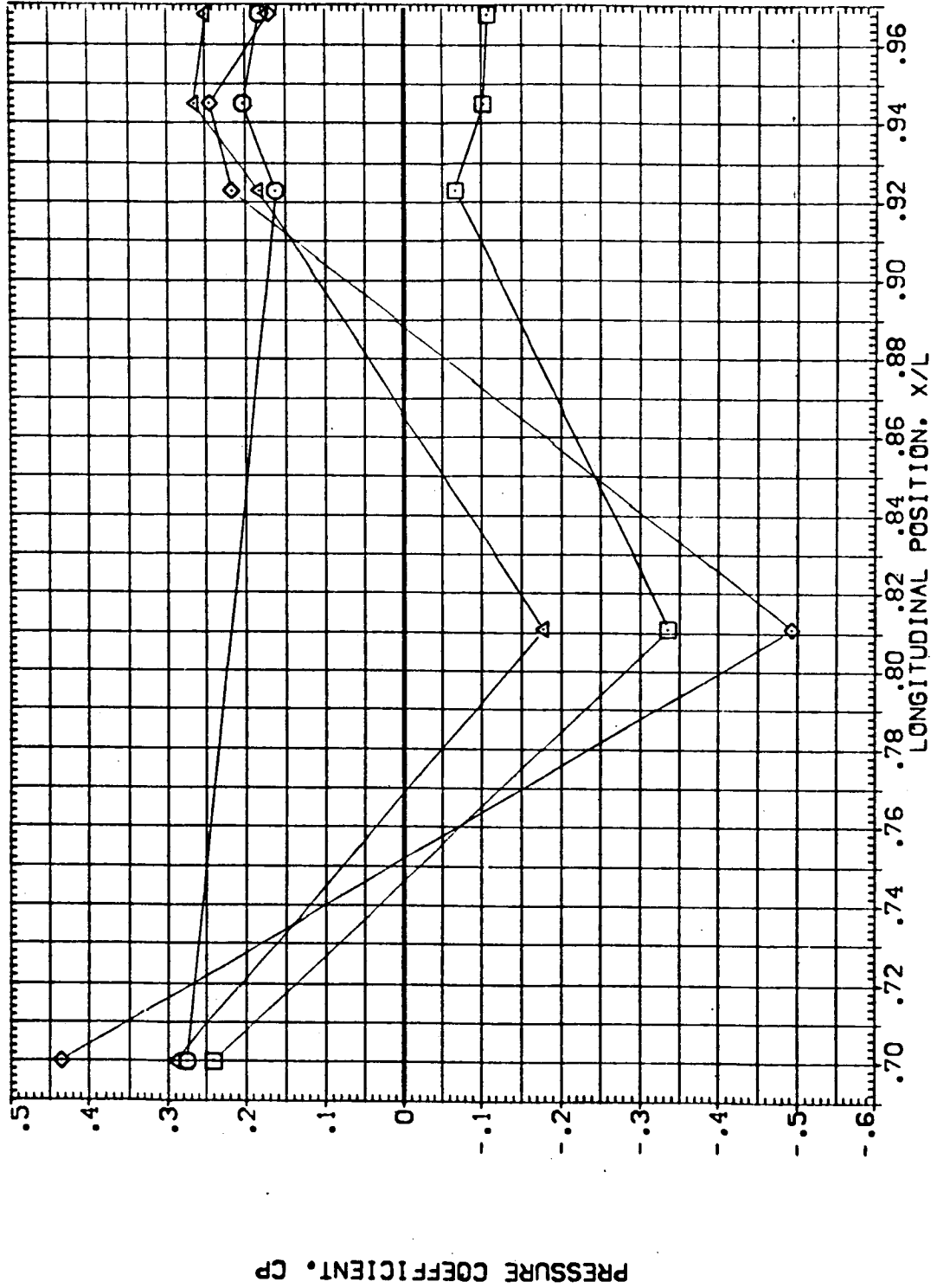


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF



ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (BEUS03)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-09	MACH	
○	.000	.000	4.000	8.000	.000	1.000	4.000
□	90.000			RUDER			1.250
◇	180.000			GIMBAL			
△	270.000						

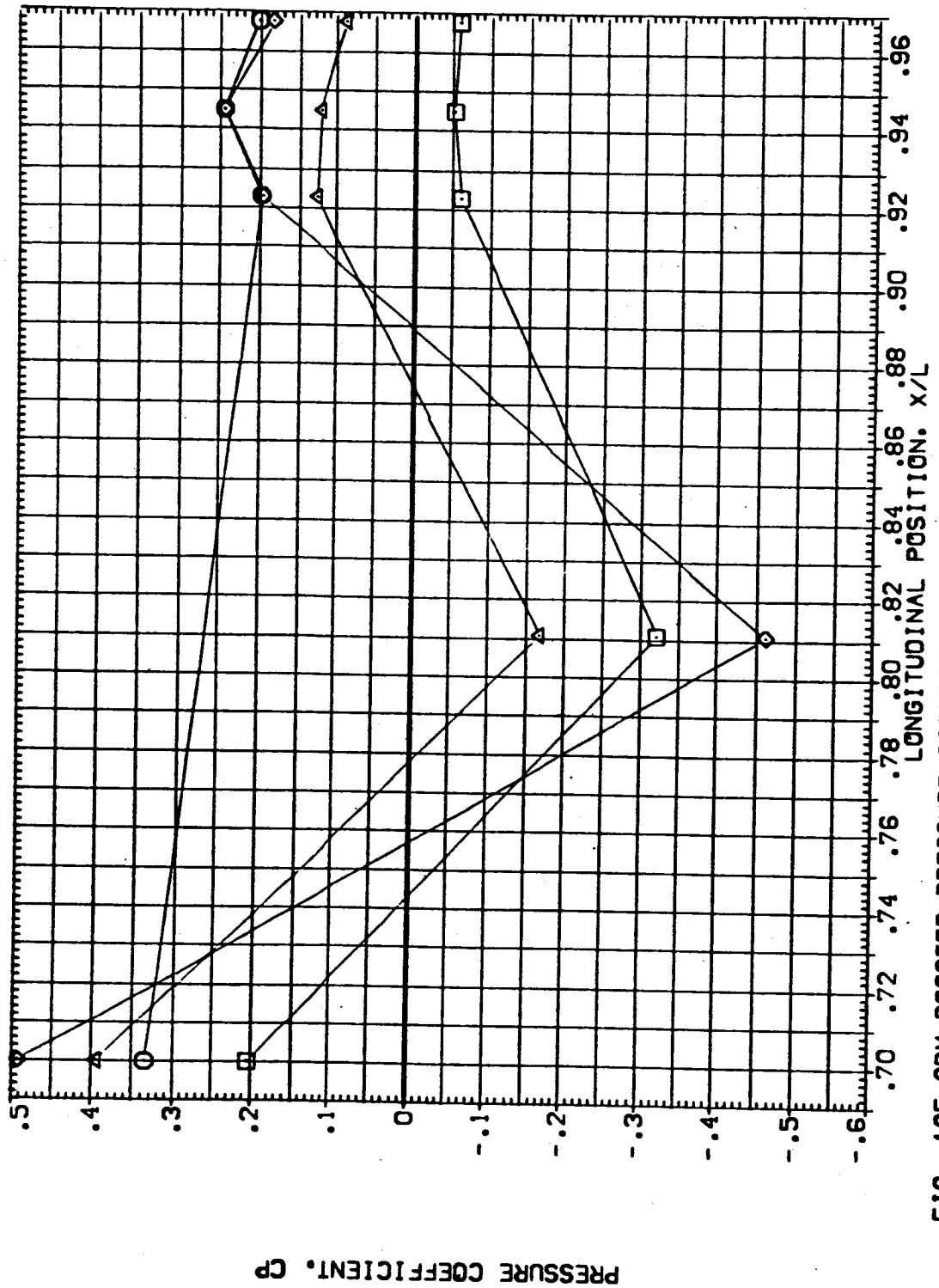


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-10	ELV-09	MACH	
○	.000	-4.000	.000	RUDDER	.000	1.000	1.000
□	90.000			GIMBAL			1.250
◇	180.000						
△	270.000						

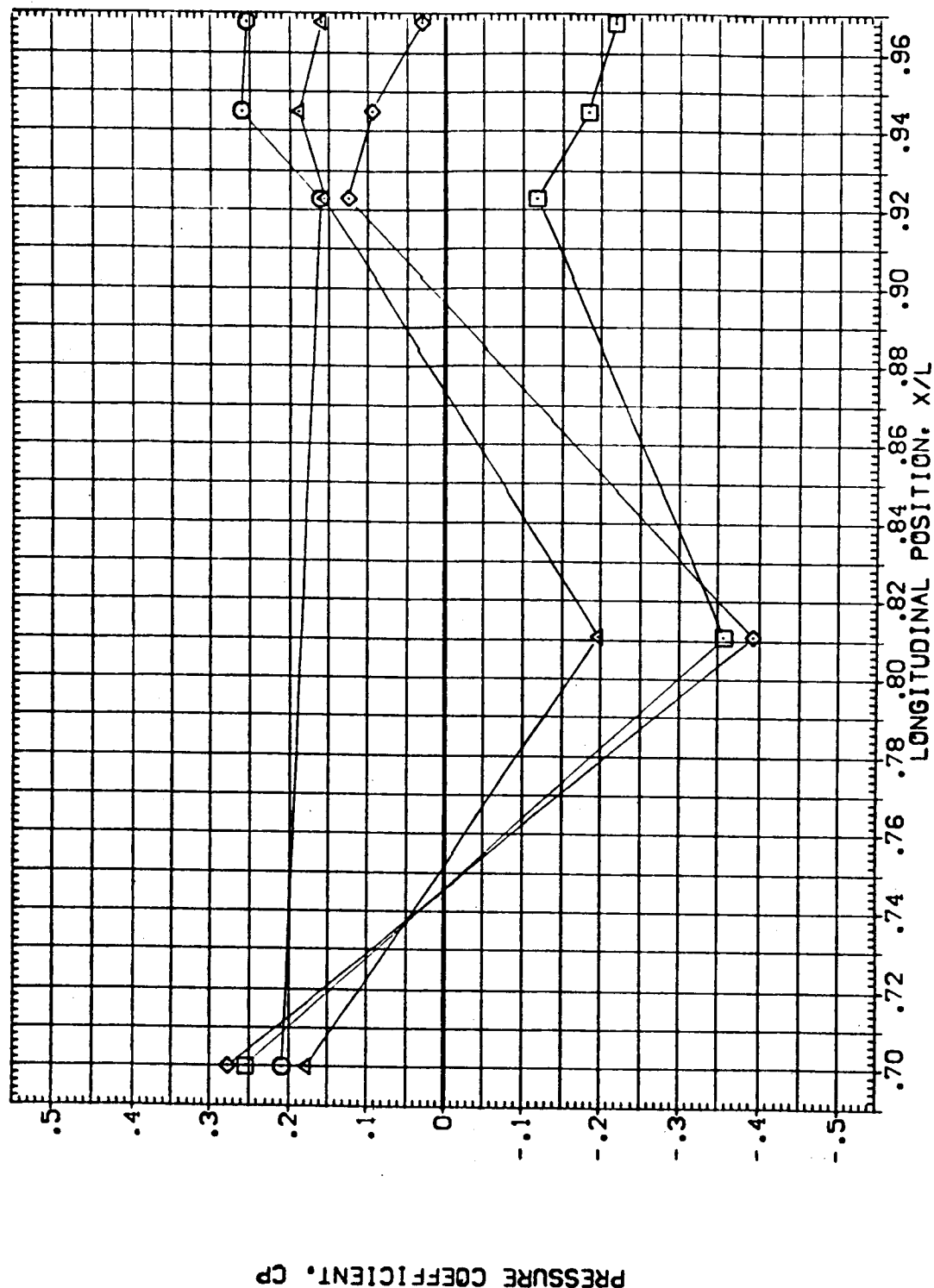


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (CEUS03)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-1B	ELV-0B	ELV-0B	MACH
○	.000	4.000	.000	ELV-1B	ELV-0B	ELV-0B	MACH
□	90.000			RUDER			
◇	180.000			GIMBAL			
△	270.000						

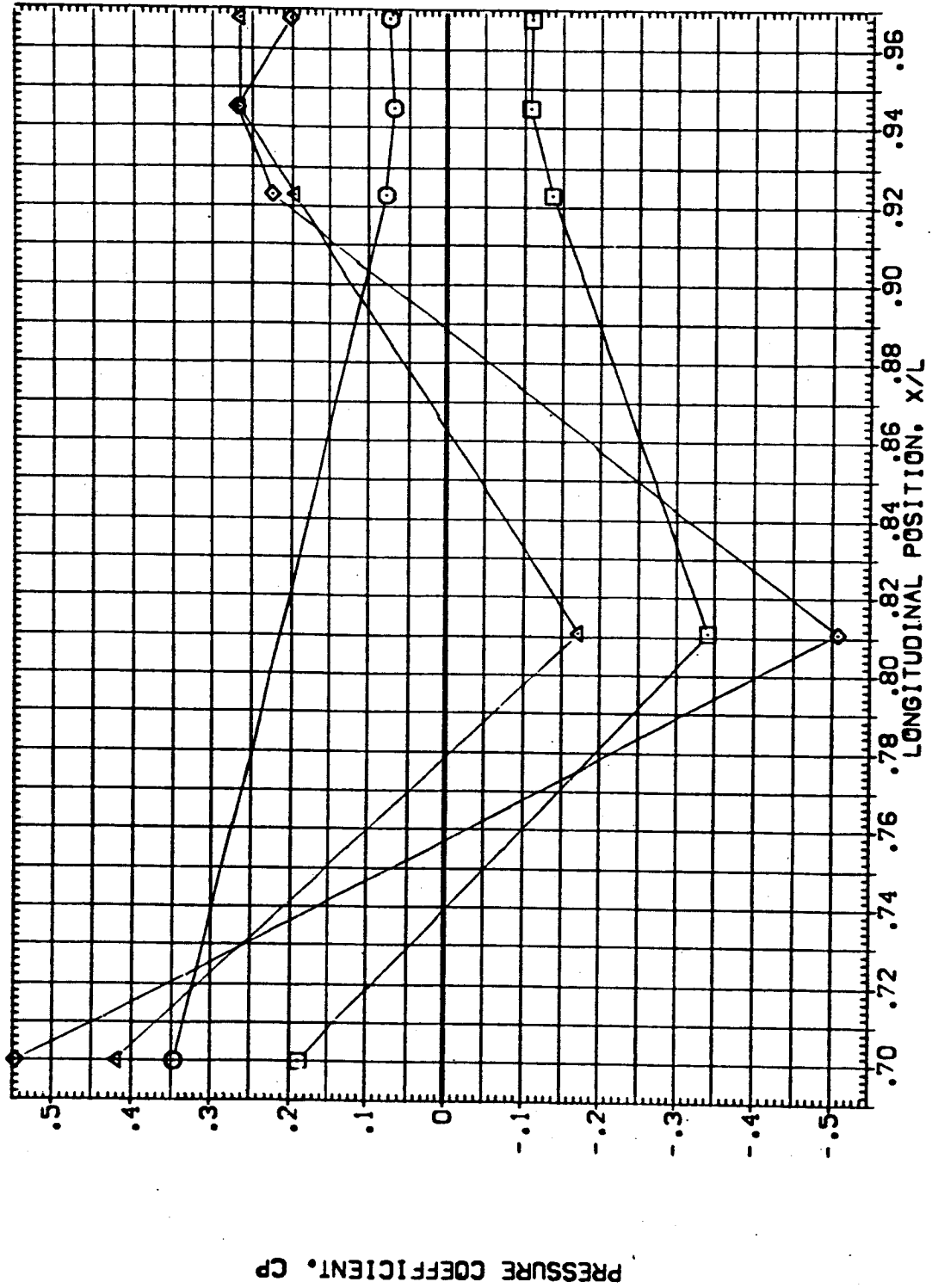


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (BEUS04)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.000	.000	-4.000	RUDER	8.000	1.000	4.000
□	90.000			GIMBAL	.000	1.400	
◇	180.000						
△	270.000						

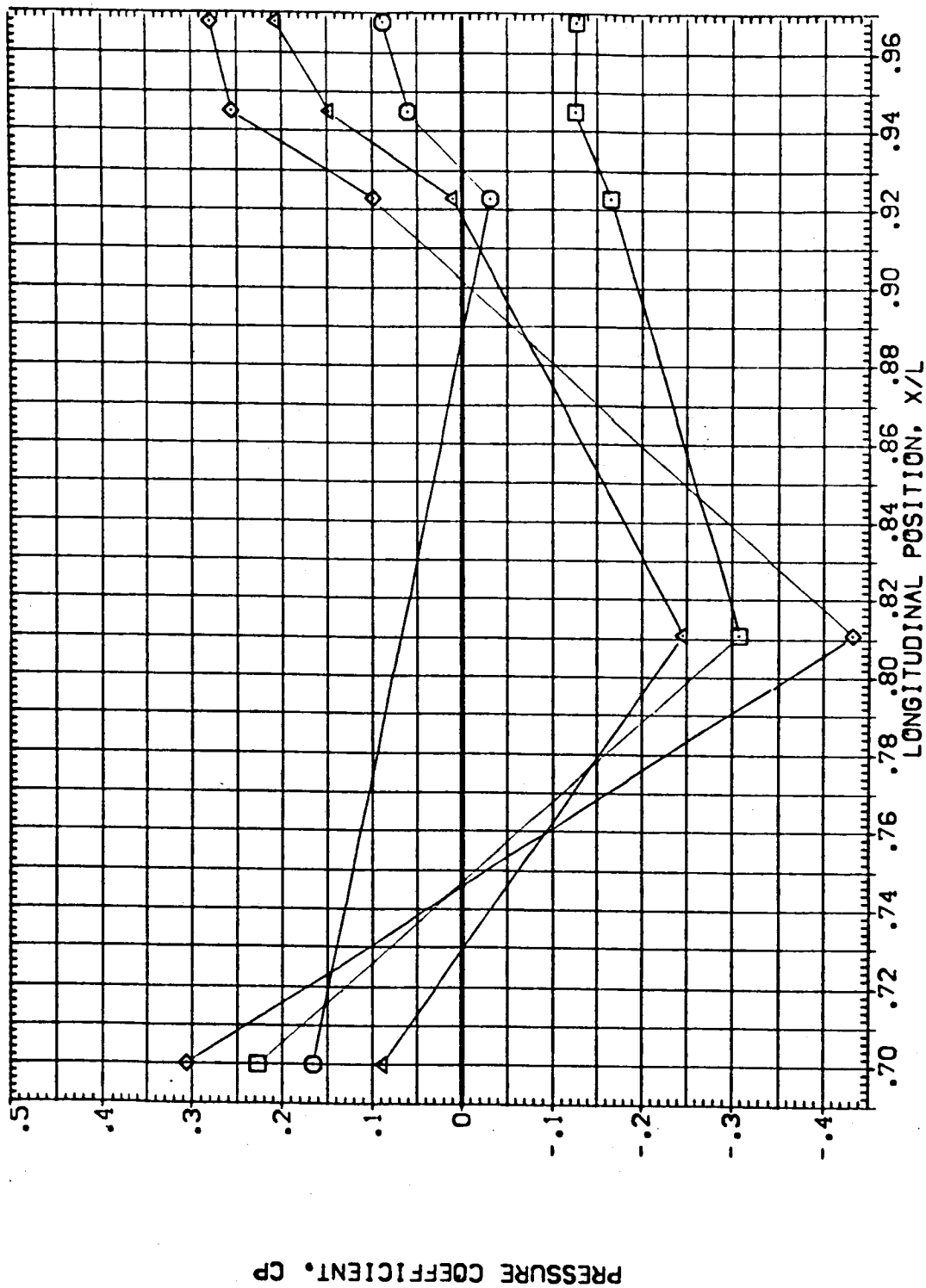


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (BEUS04)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
◇	.000	.000	.000	RUDER	.000	1.000	4.000
□	90.000			GIMBAL			1.400
◇	180.000						
◇	270.000						

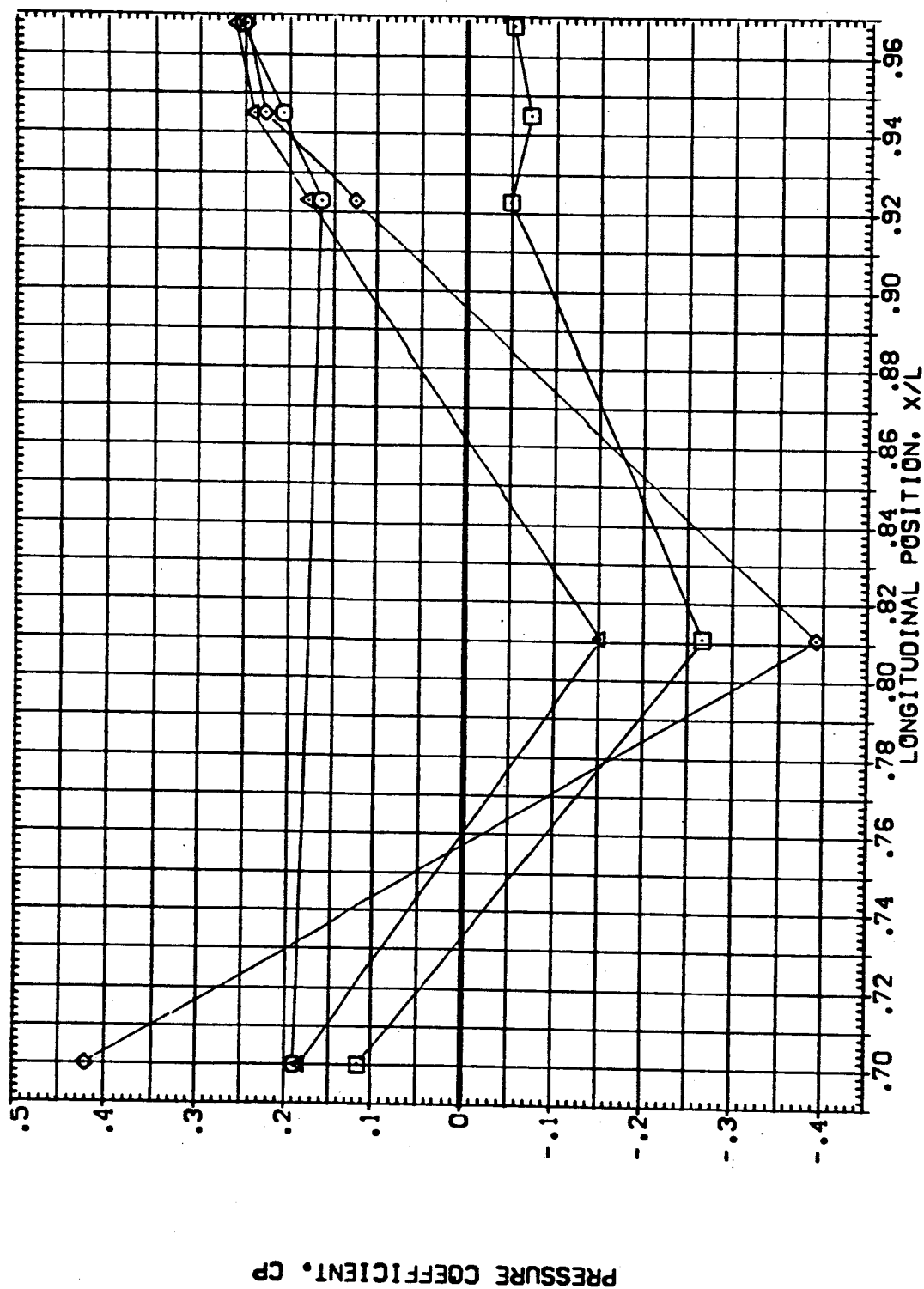


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (BEUS04)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-00	MACH
○	.000	.000	4.000	RUDDER	.000	1.000	1.400
□	90.000			GIMBAL			
◇	180.000						
△	270.000						

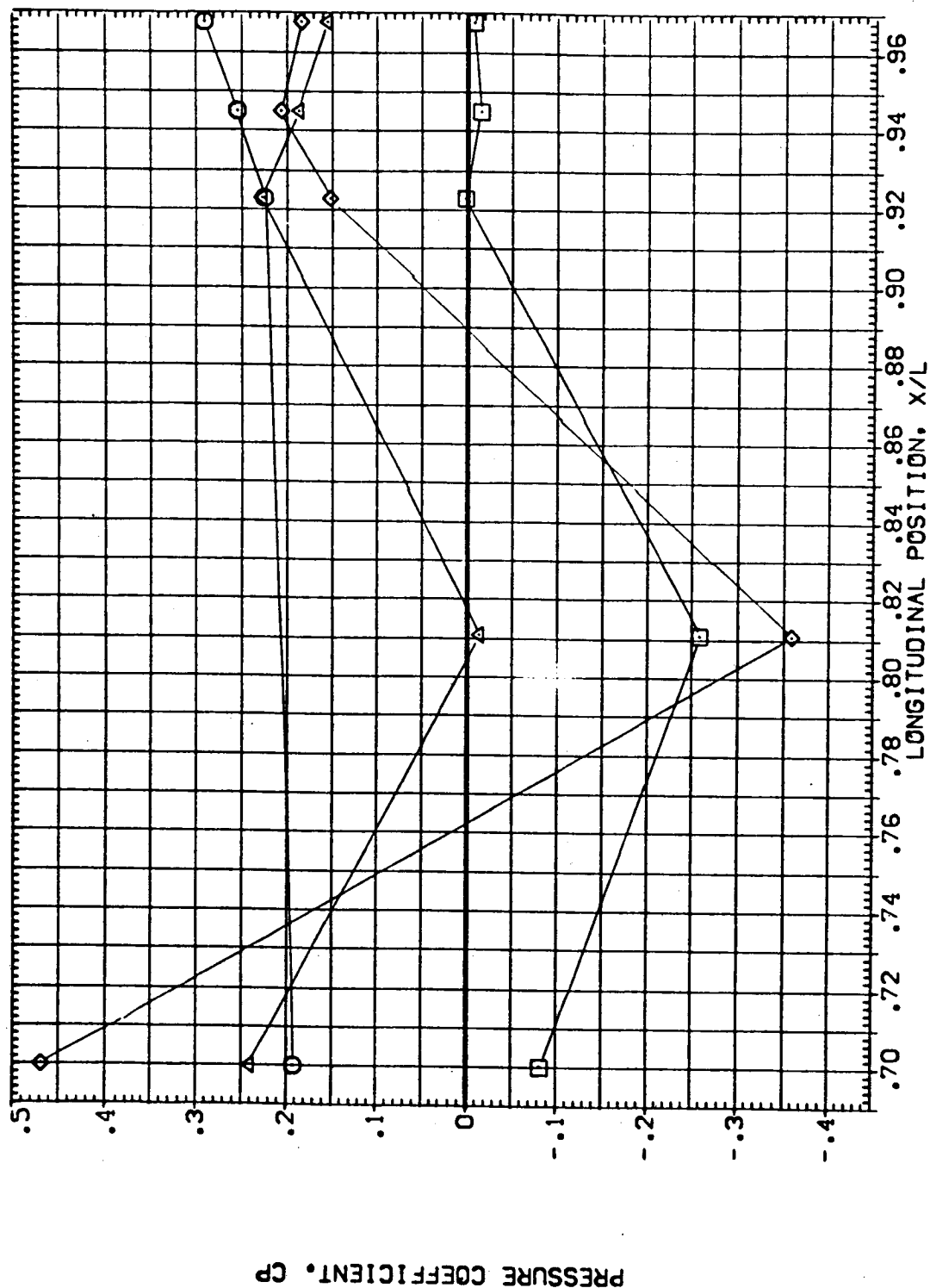


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (CEUS04)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.000	-4.000	.000	8.000	8.000	1.000	1.000
□	90.000			RUDER			
◇	180.000			GIMBAL			
△	270.000						

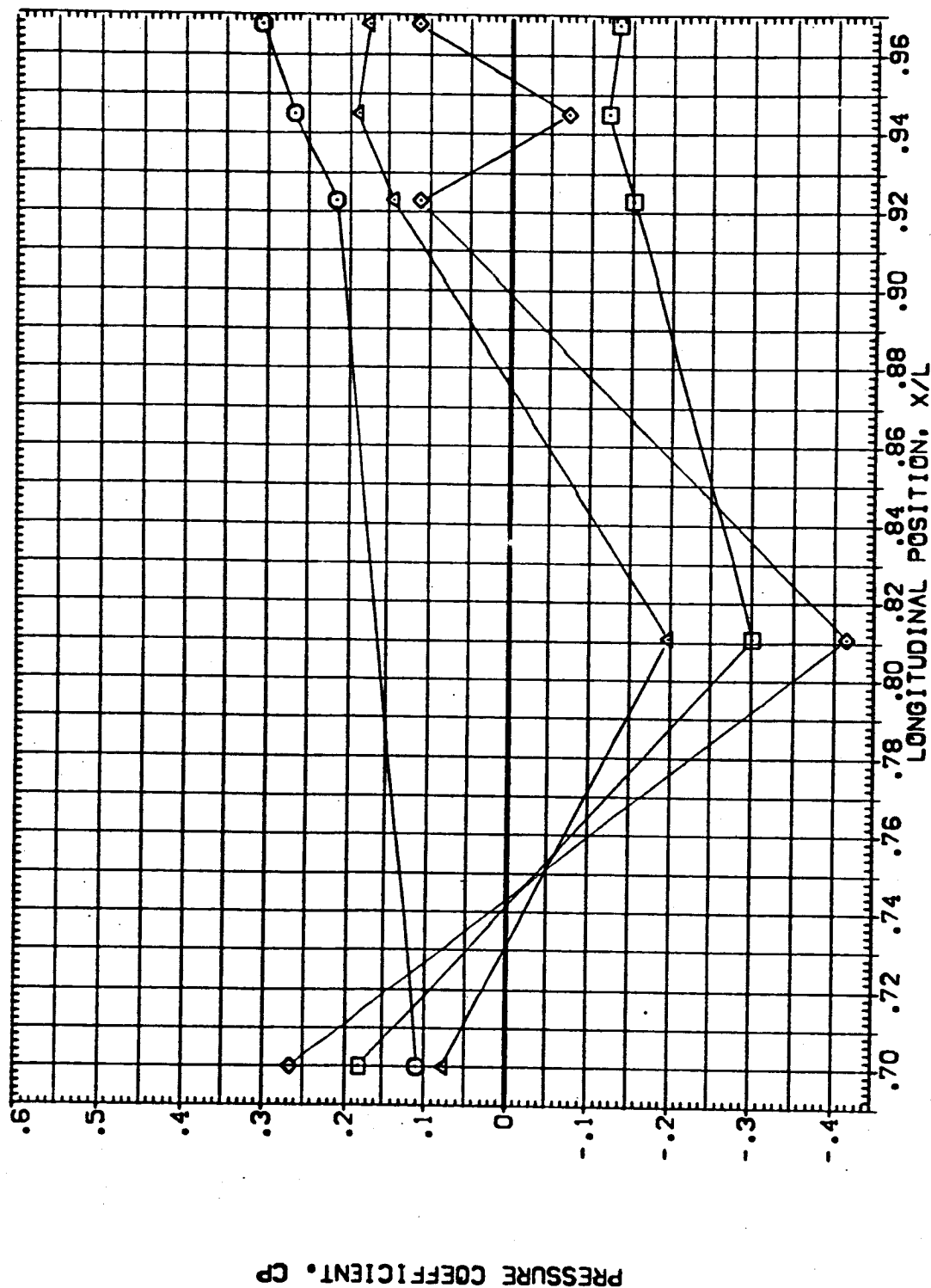


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF SRB BODY (CEUS04)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-IB	ELV-OB	MACH	
○	.000	4.000	.000	8.000	8.000	1.000	4.000
□	90.000			RUDER			1.400
◇	180.000			GINBAL			
△	270.000						

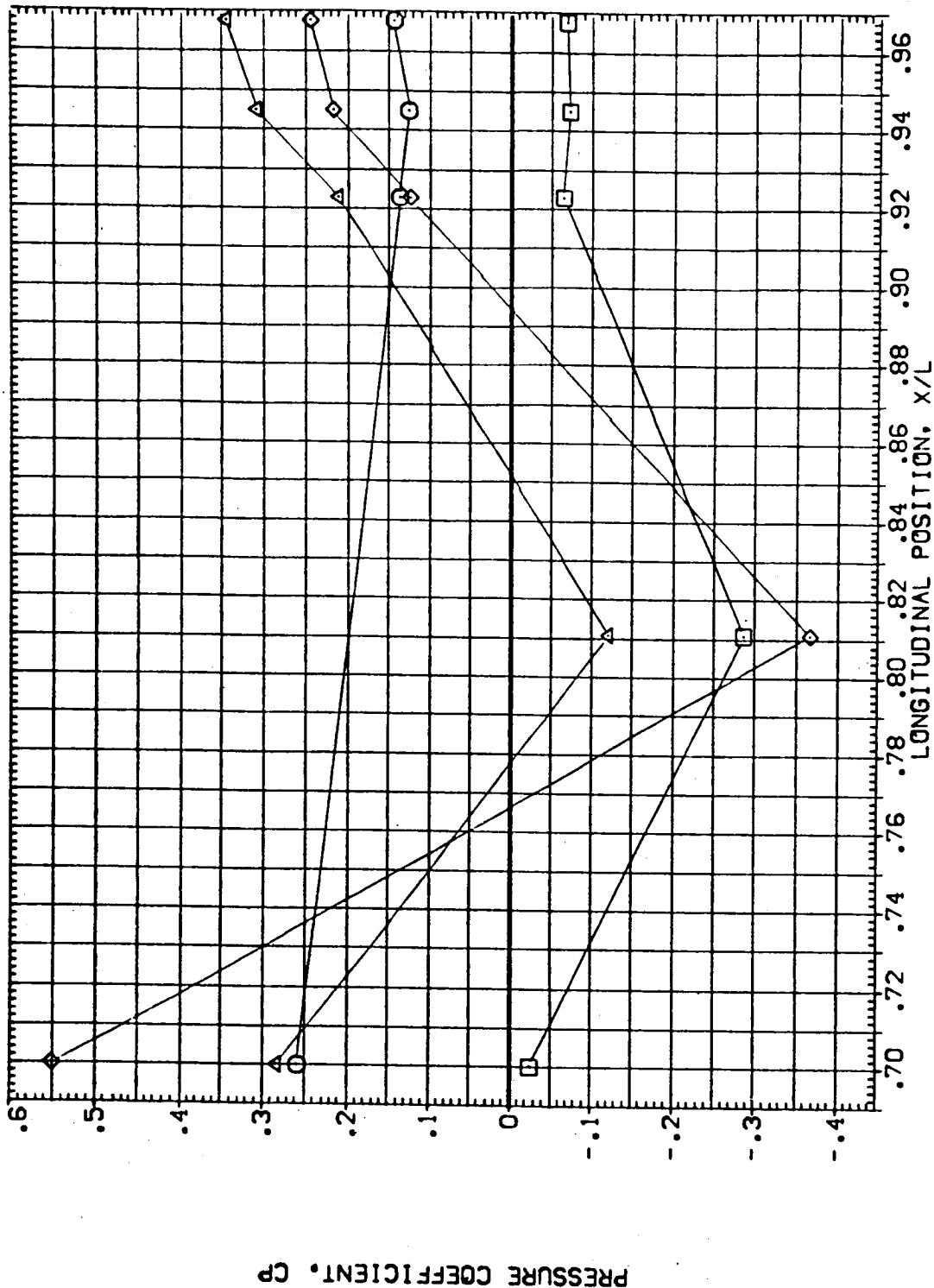


FIG. 105 SRM BOOSTER PRESSURE COEFFICIENT DISTRIBUTION POWER OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (EEUS05)

SYMBOL PHI BETA ALPHA
 ○ .000 .000 -4.000
 □ 90.000
 ◇ 180.000
 △ 270.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-88 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

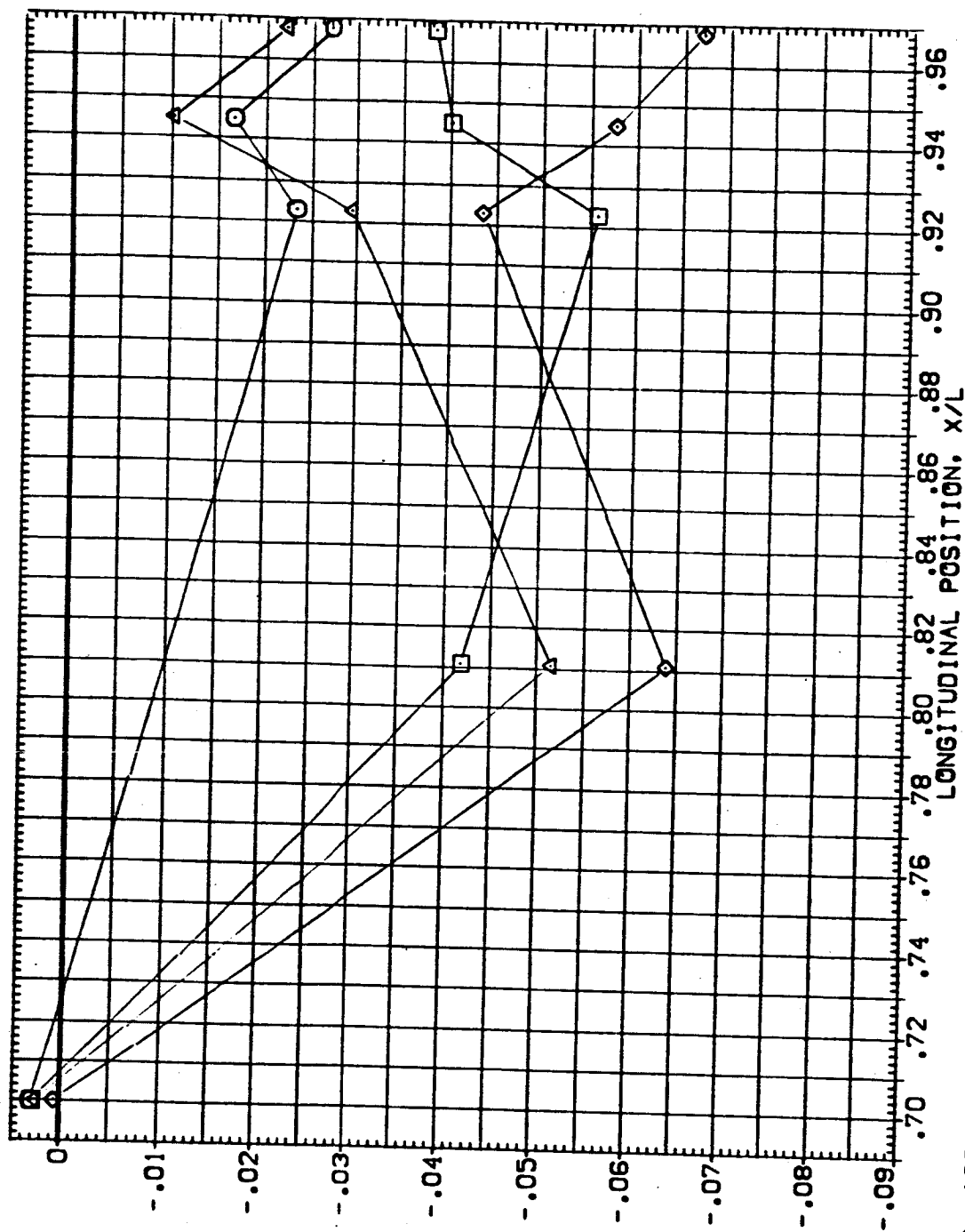


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL	PHI	BETA	ALPHA	ELV-18	ELV-08
○	.000	.000	.000	8.000	1.000
□	90.000	.000	.000	8.000	.900
◇	180.000	.000	.000	8.000	.900
△	270.000	.000	.000	8.000	.900

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

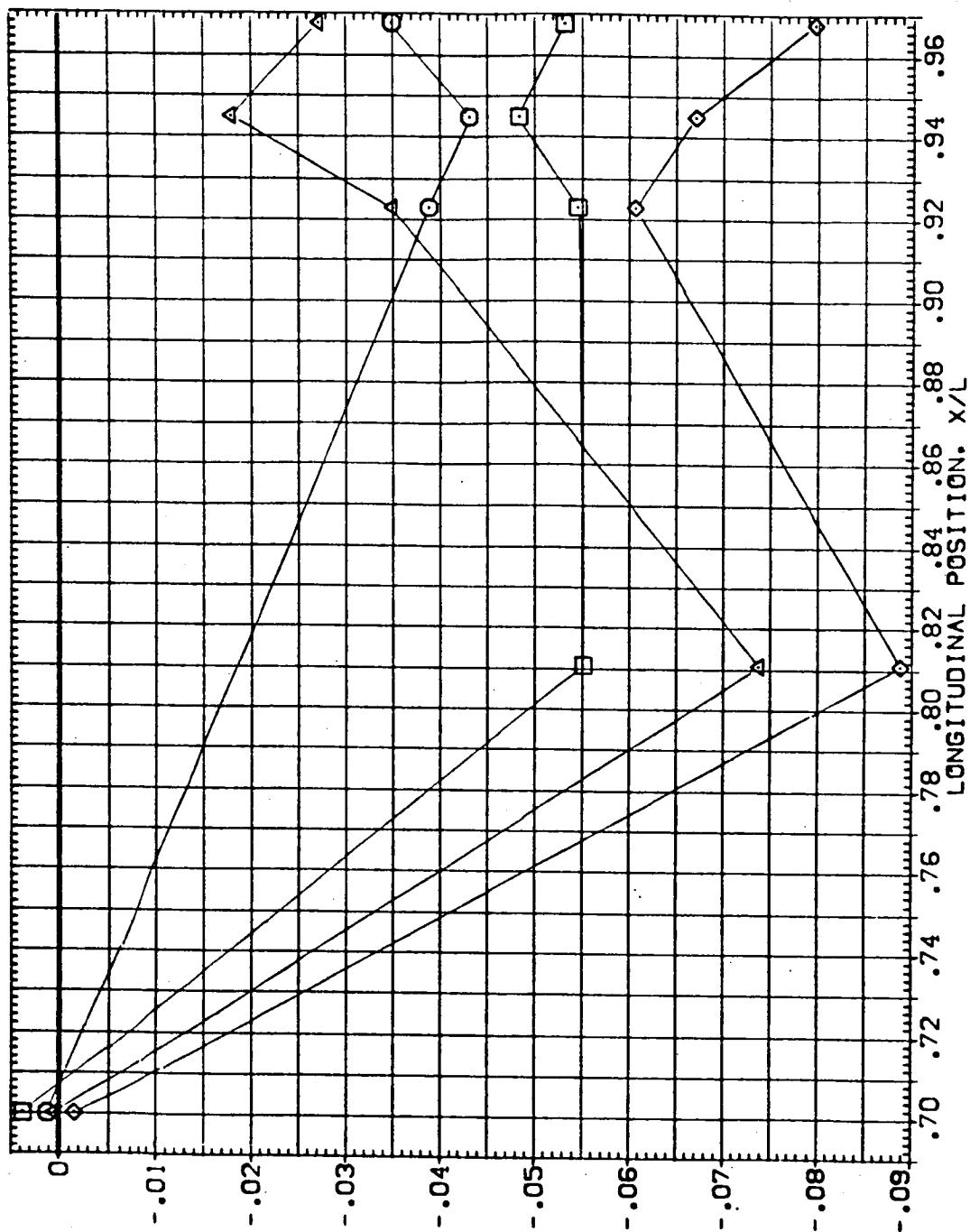


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (EEUS05)

SYMBOL PHI BETA ALPHA

○ .000 .000 4.000

□ 90.000 .000 .000

◇ 180.000 .000 .000

▽ 270.000 .000 .000

PARAMETRIC VALUES

ELV-18 8.000 ELV-08 4.000

RUDDER .000 MACH .900

GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

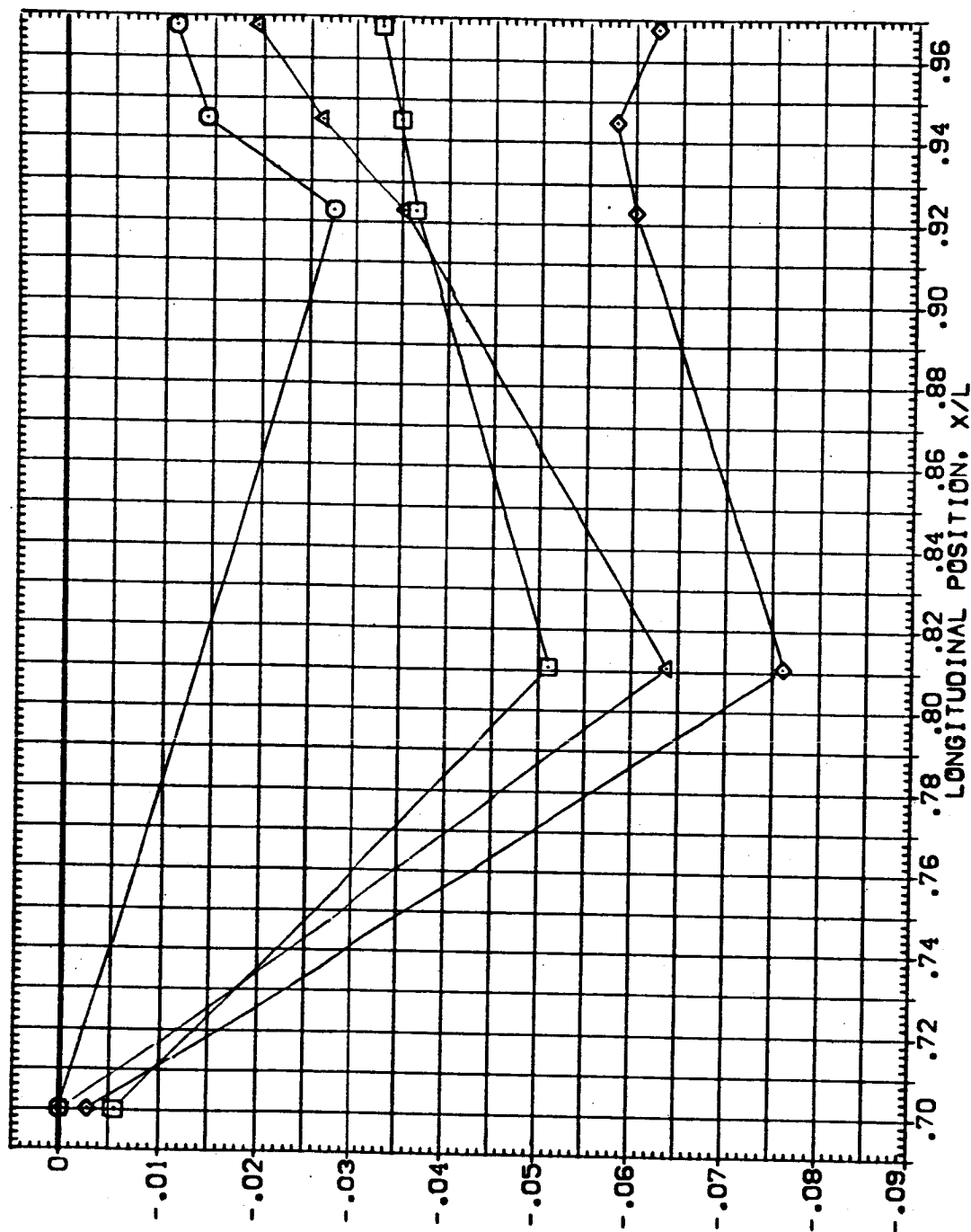


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL	RAI	BETA	ALPHA	PARAMETRIC VALUES
○	.000	-4.000	.000	ELV-18
□	90.000			ELV-08
◇	180.000			RUDDER
△	270.000			GIMBAL
				MACH
				1.000
				4.000
				.900

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

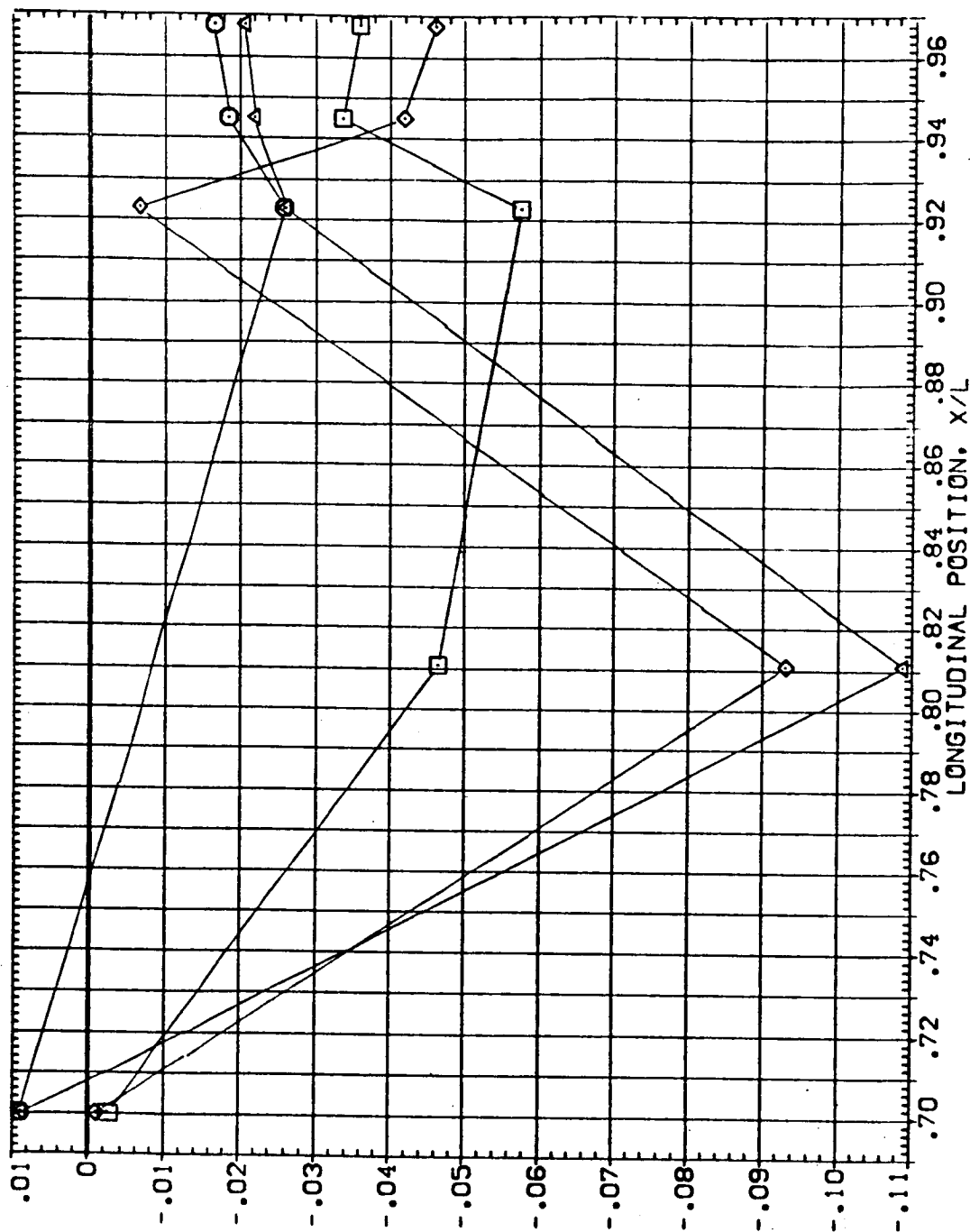


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (FEUS05)

Symbol	Phi	Beta	Alpha	Parametric Values
○	.000	4.000	.000	ELV-18 8.000 ELV-88 4.000
□	90.000			RUDER .000 MACH .900
◇	180.000			GIMBAL 1.000
△	270.000			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

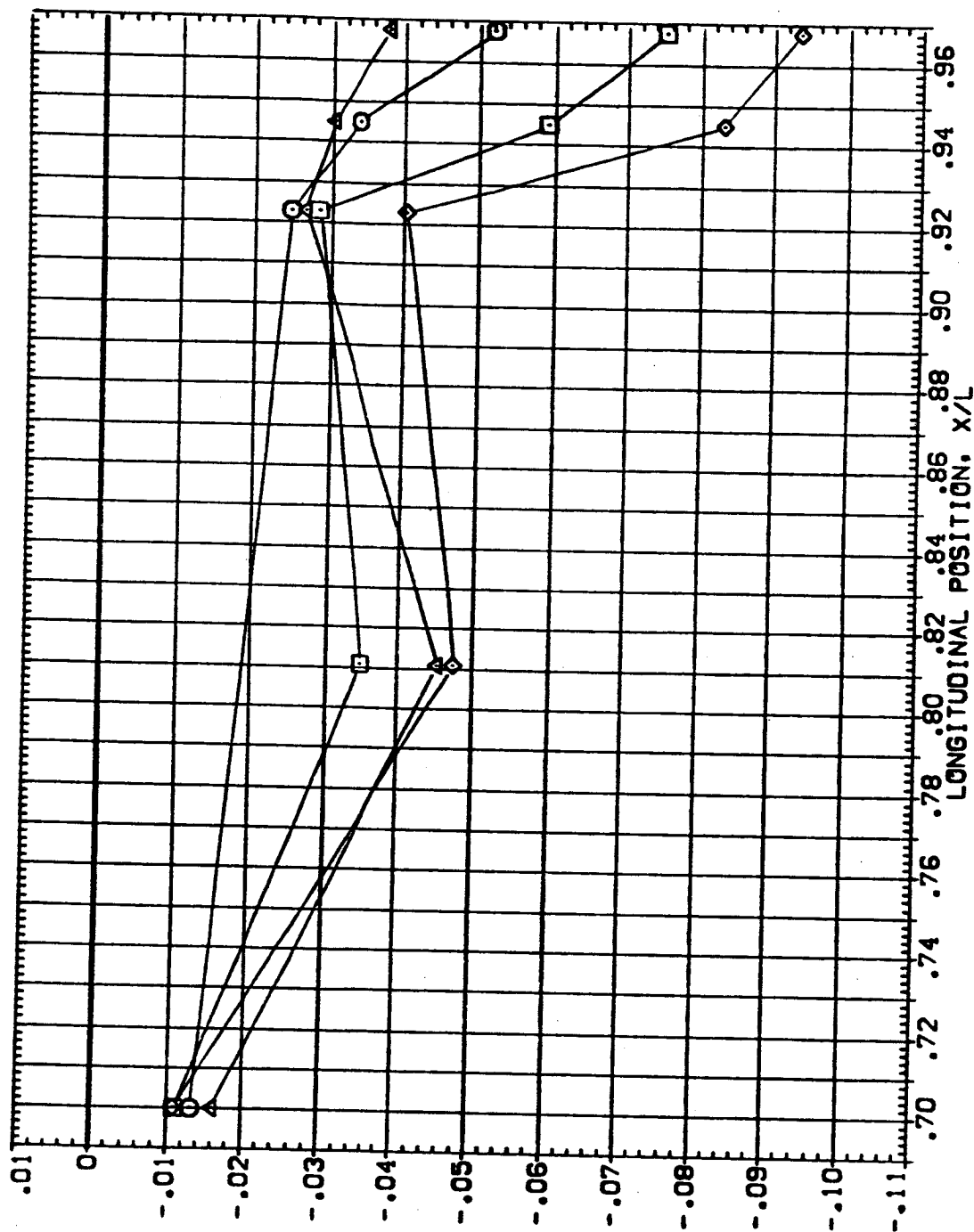


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
	0.000	.000	-4.000	ELV-1B	8.000	ELV-09	4.000
	90.000			RUDDER	.000	MACH	1.100
	180.000			GIMBAL	1.000		
	270.000						

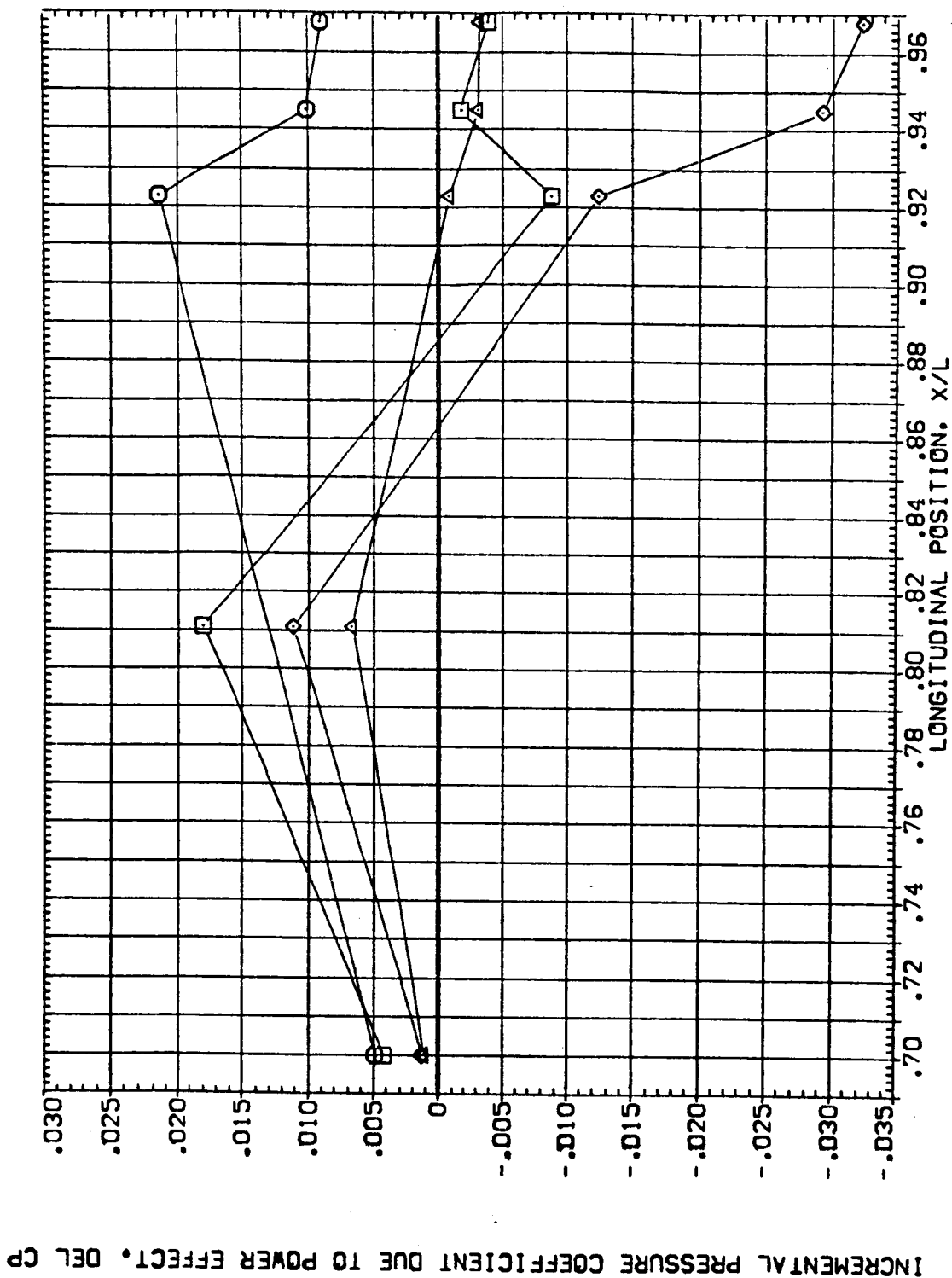


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (EEUS06)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES					
				ELV-18	ELV-08	MACH			
								RUDDER	
.000	.000	.000	4.000						
90.000			1.100						
180.000									
270.000									

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

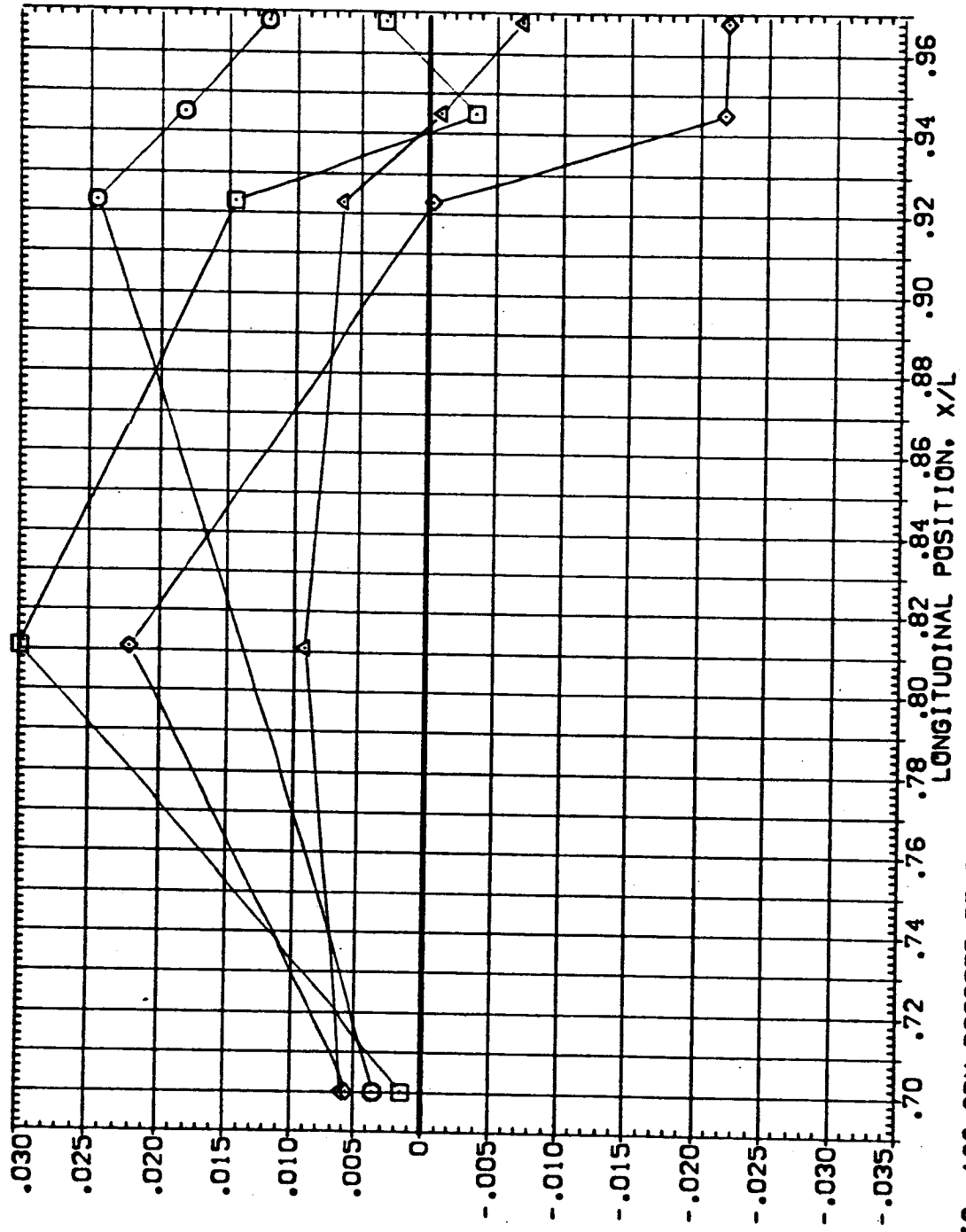


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES
○	.000	.000	1.000	ELV-18
□	90.000			RUDER
◇	180.000			GIMBAL
△	270.000			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

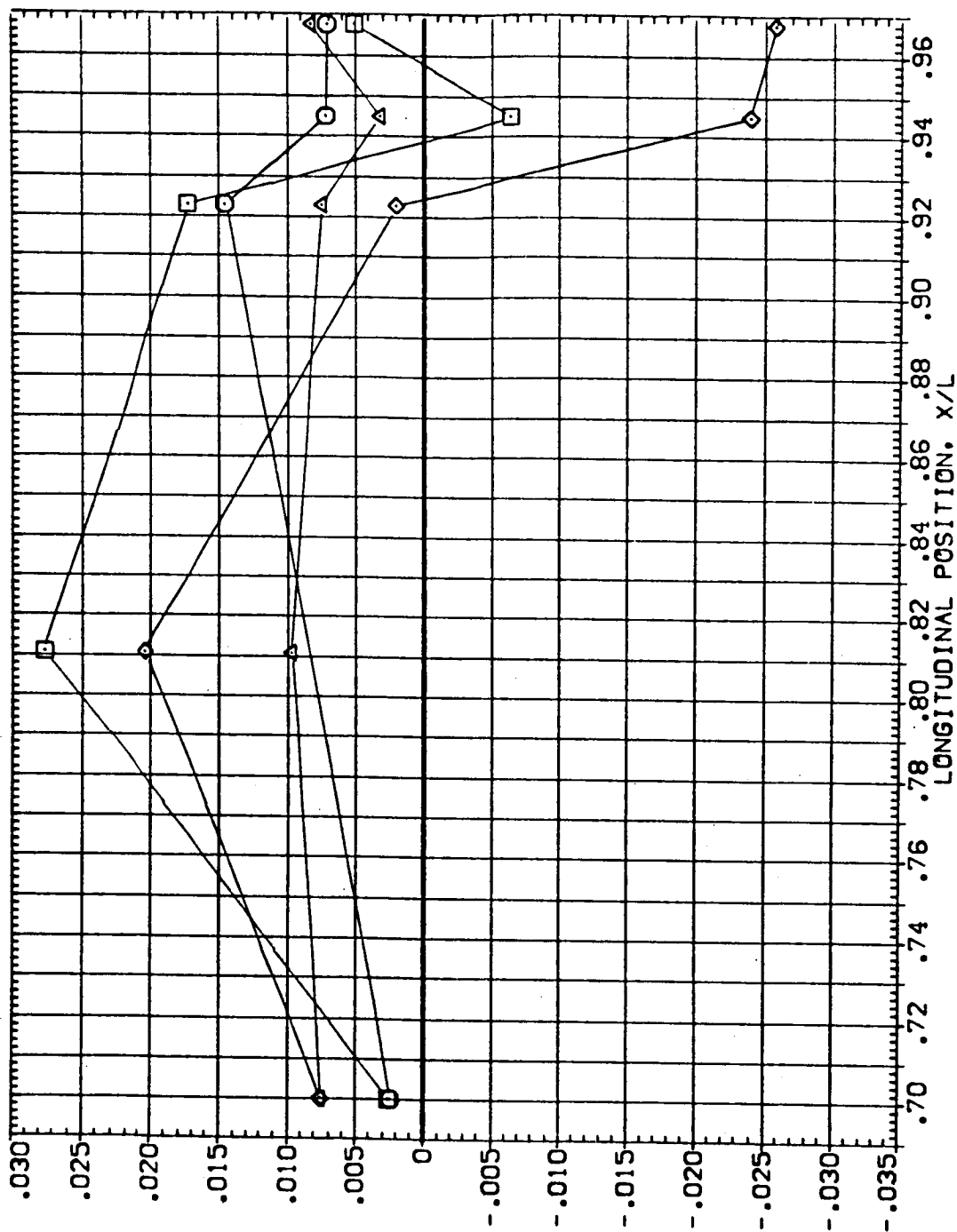


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (FEUS06)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
○	.000	-4.000	.000	8.000	1.000	4.000	
□	90.000			RUDDER			
◇	180.000			GIMBAL			
△	270.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

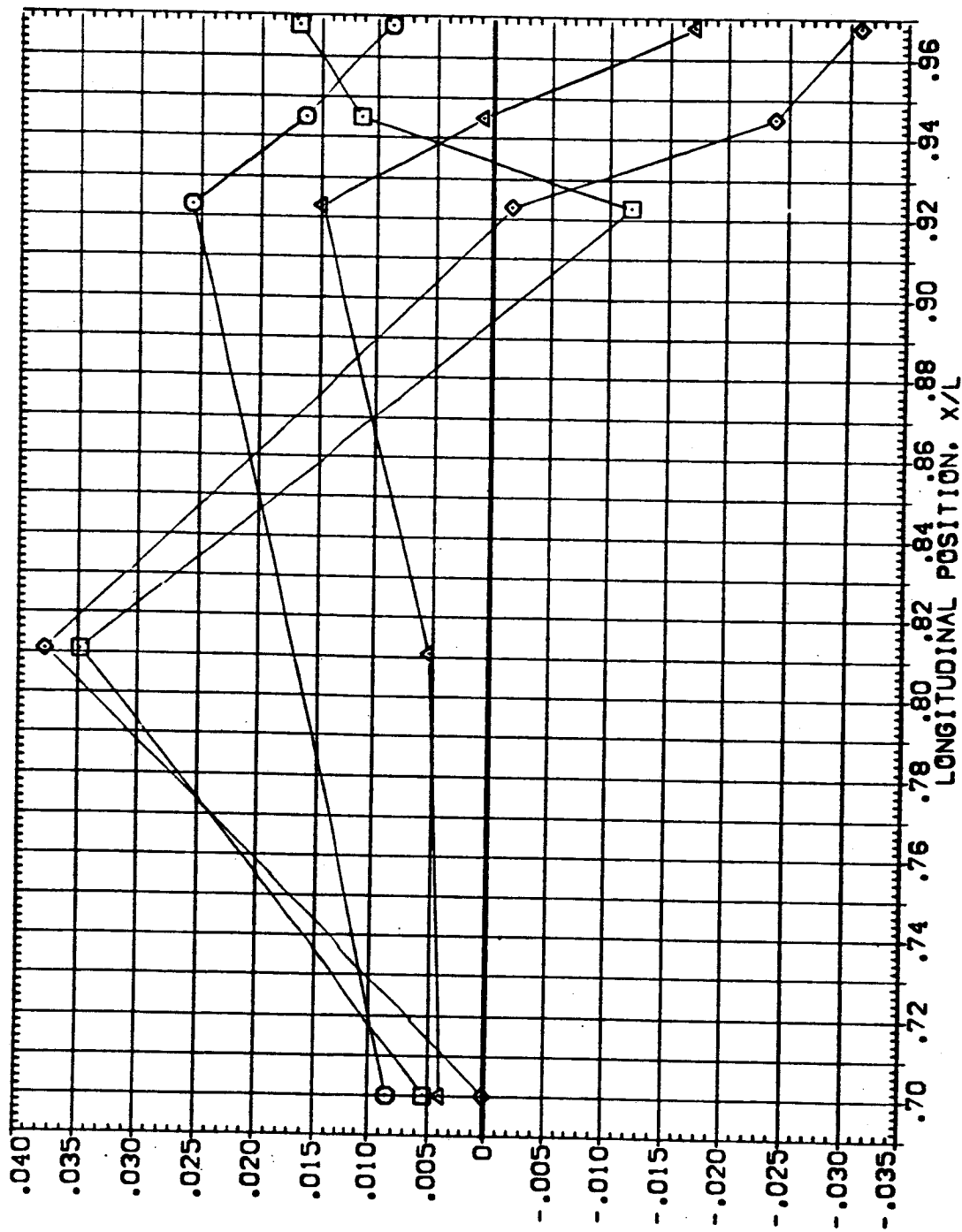


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (FEUS06)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-88	ELV-88	MACH
○	.000	1.000	.000	RUDDER	.000	1.000	
□	50.000			GIMBAL			
◇	180.000						
△	270.000						

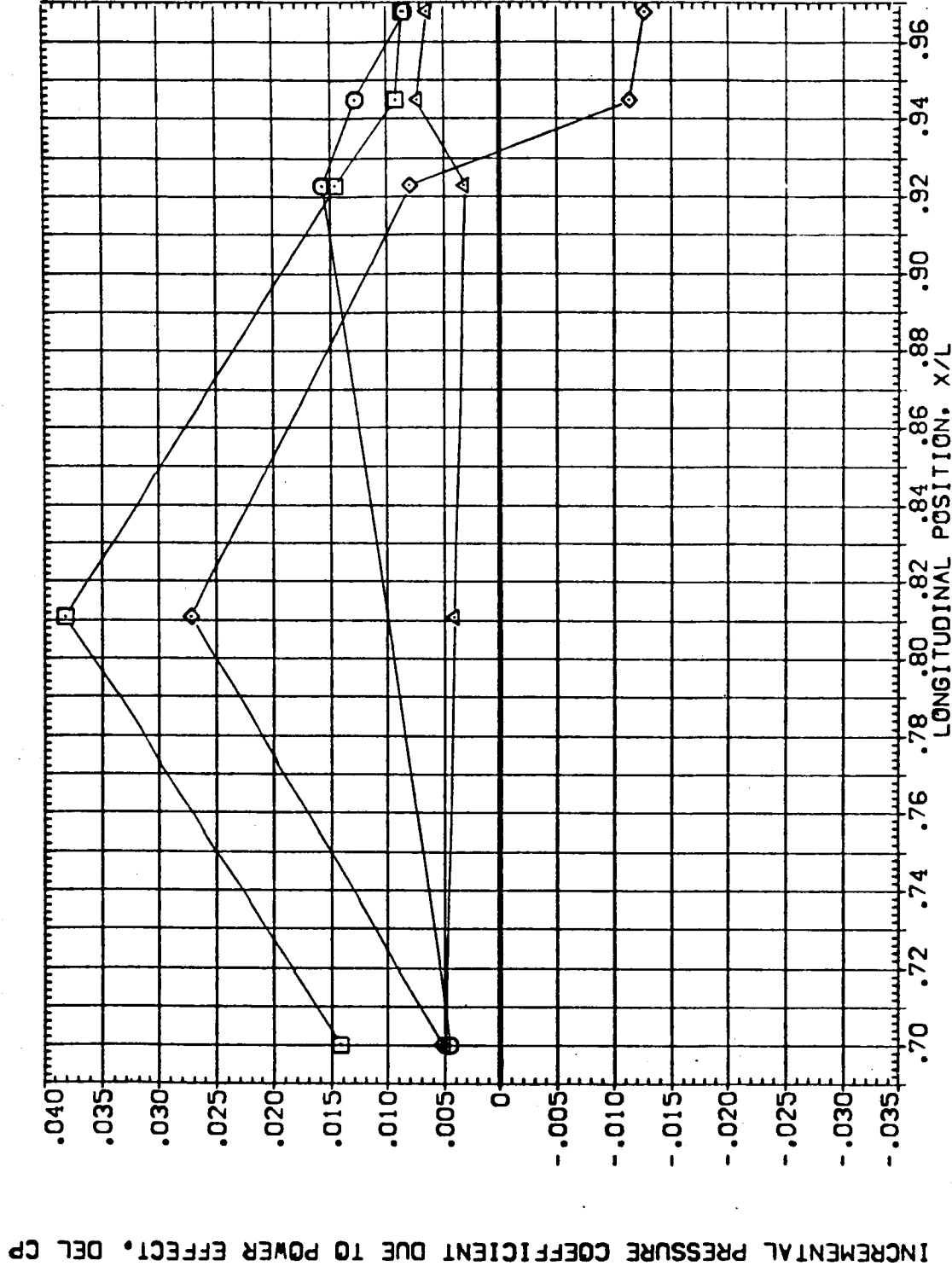


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (EEUS07)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES
□	.000	.000	-1.000	ELV-19 8.000 ELV-08 4.000
◇	90.000			RUDDER .000 MACH 1.250
△	180.000			GIMBAL 1.000
	270.000			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

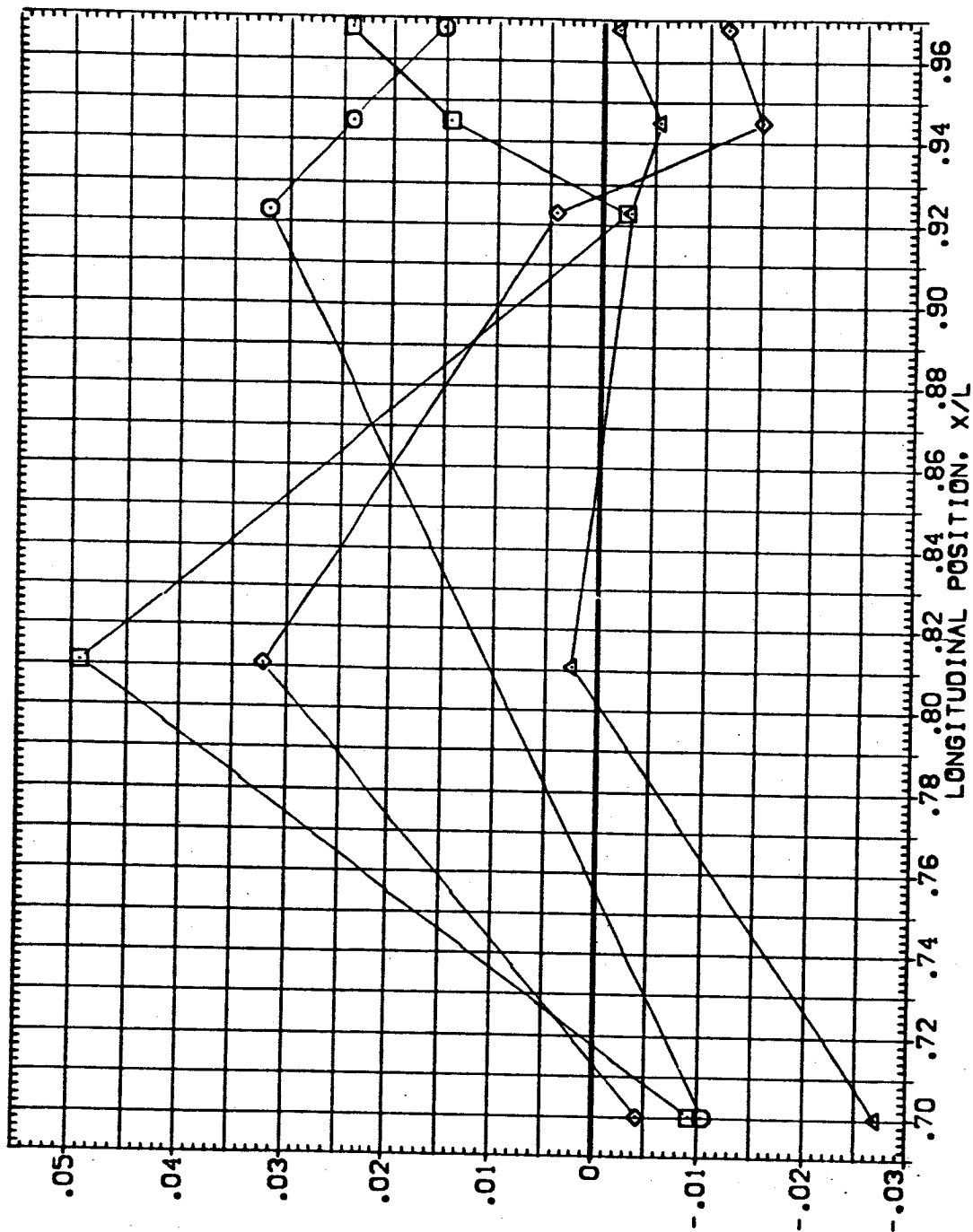


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (EEUS07)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES
○	.000	.000	.000	ELV-18 8.000 ELV-08 4.000
□	50.000			RUDER .000 MACH 1.250
◇	180.000			
△	270.000			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

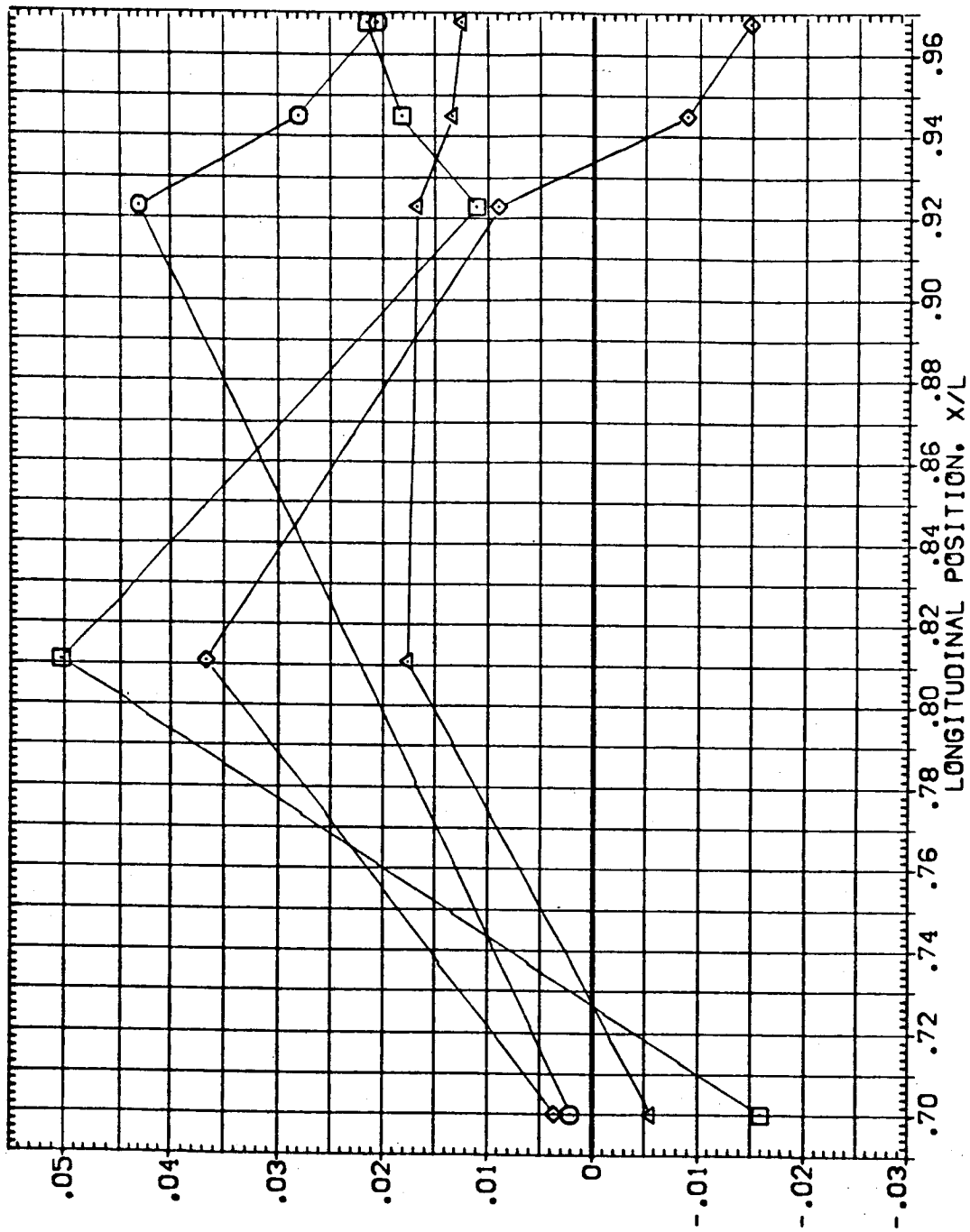


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (EEUS07)

SYMBOL	PHI	BETA	ALPHA	ELV-18	ELV-08
□	.000	.000	4.000	RUDDER	MACH
◇	50.000			GIMBAL	
△	180.000				
	270.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

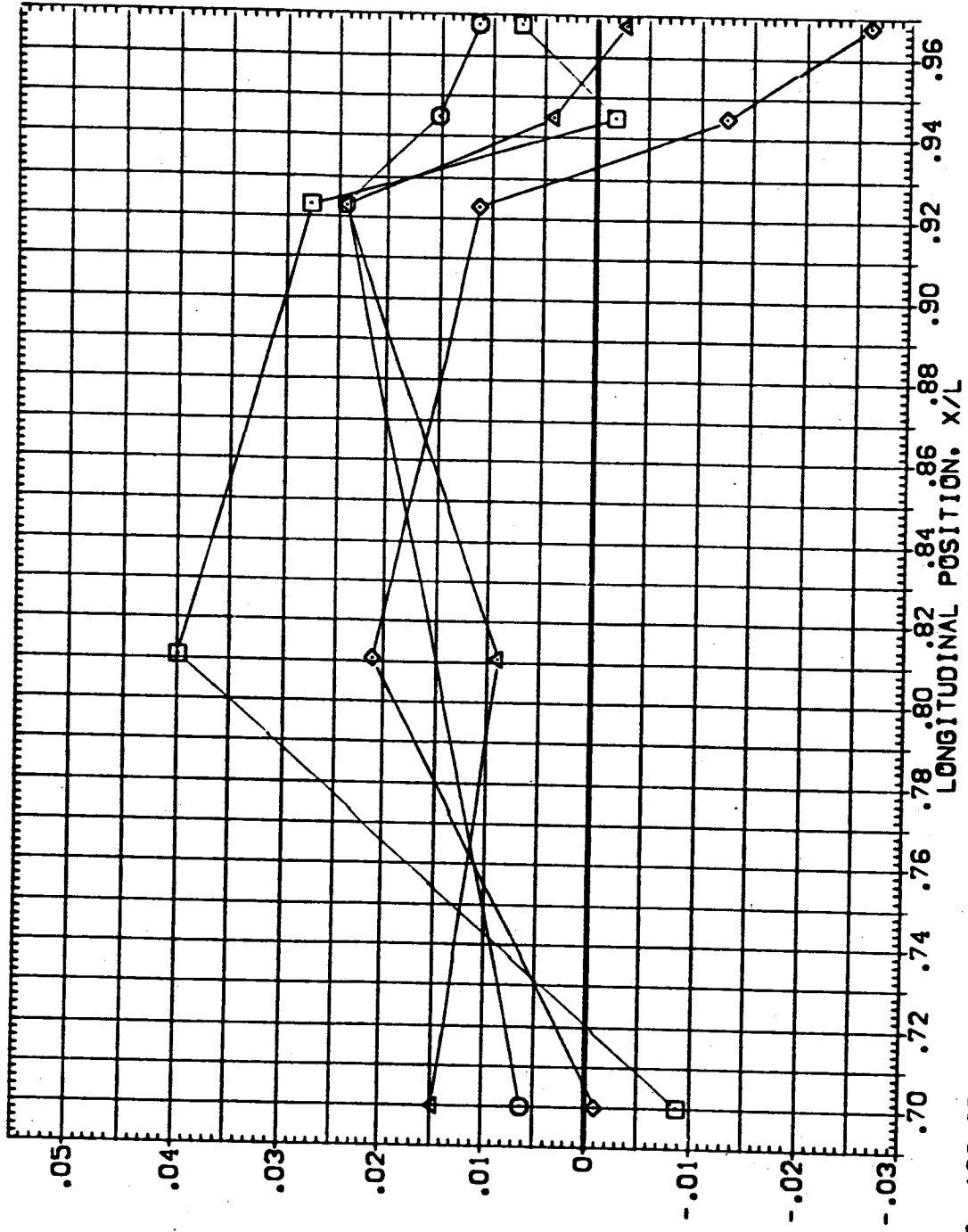


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (FEUS07)

SYM	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	
○	.000	-1.000	.000	RUDER	.000	MACH	1.000
□	90.000			GIMBAL	1.000		
◇	180.000						
△	270.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

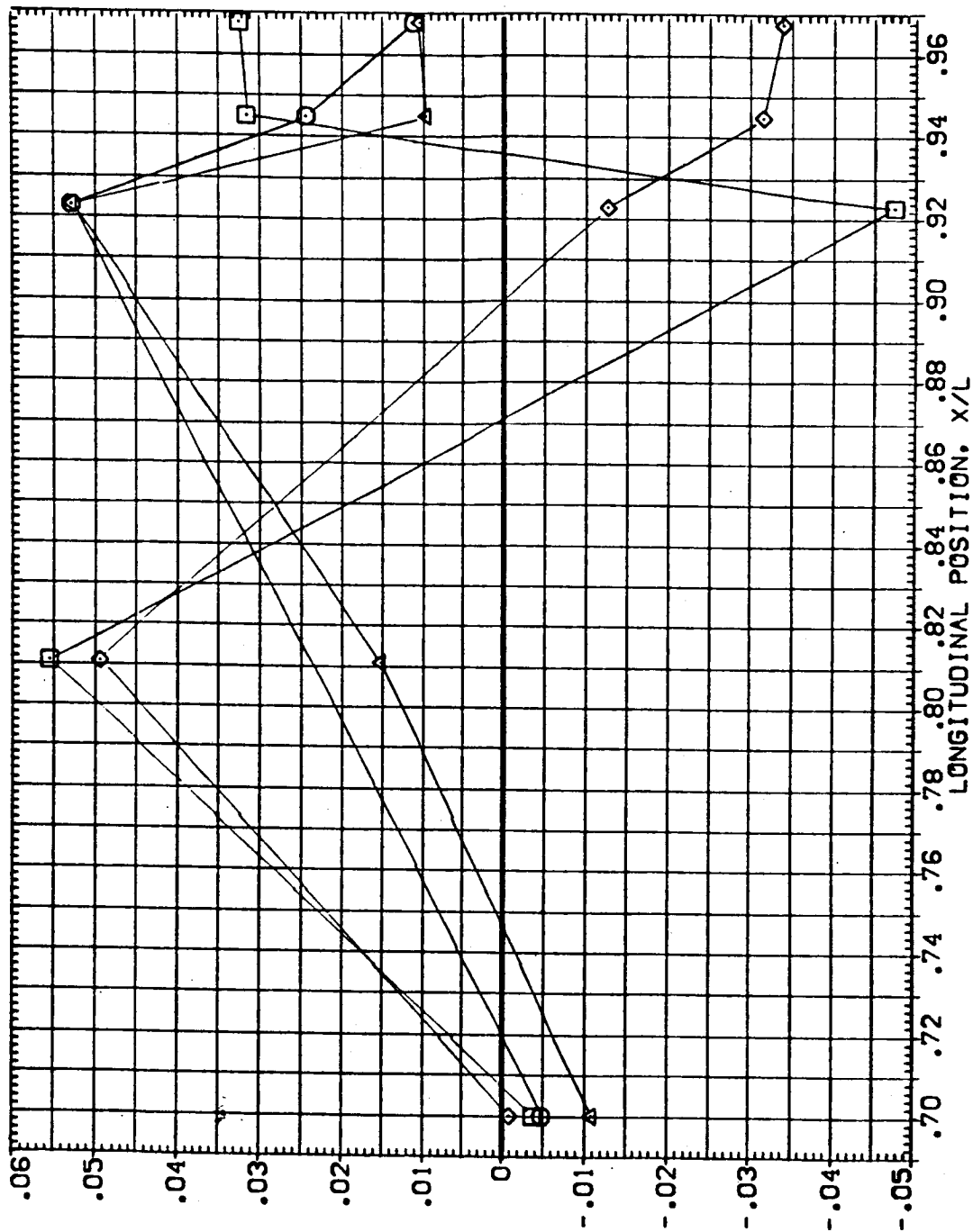


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (FEUS07)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	
□	.000	1.000	.000	RUDER	.000	MACH	1.000
◇	90.000			GIMBAL	1.000		
△	180.000						
▽	270.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

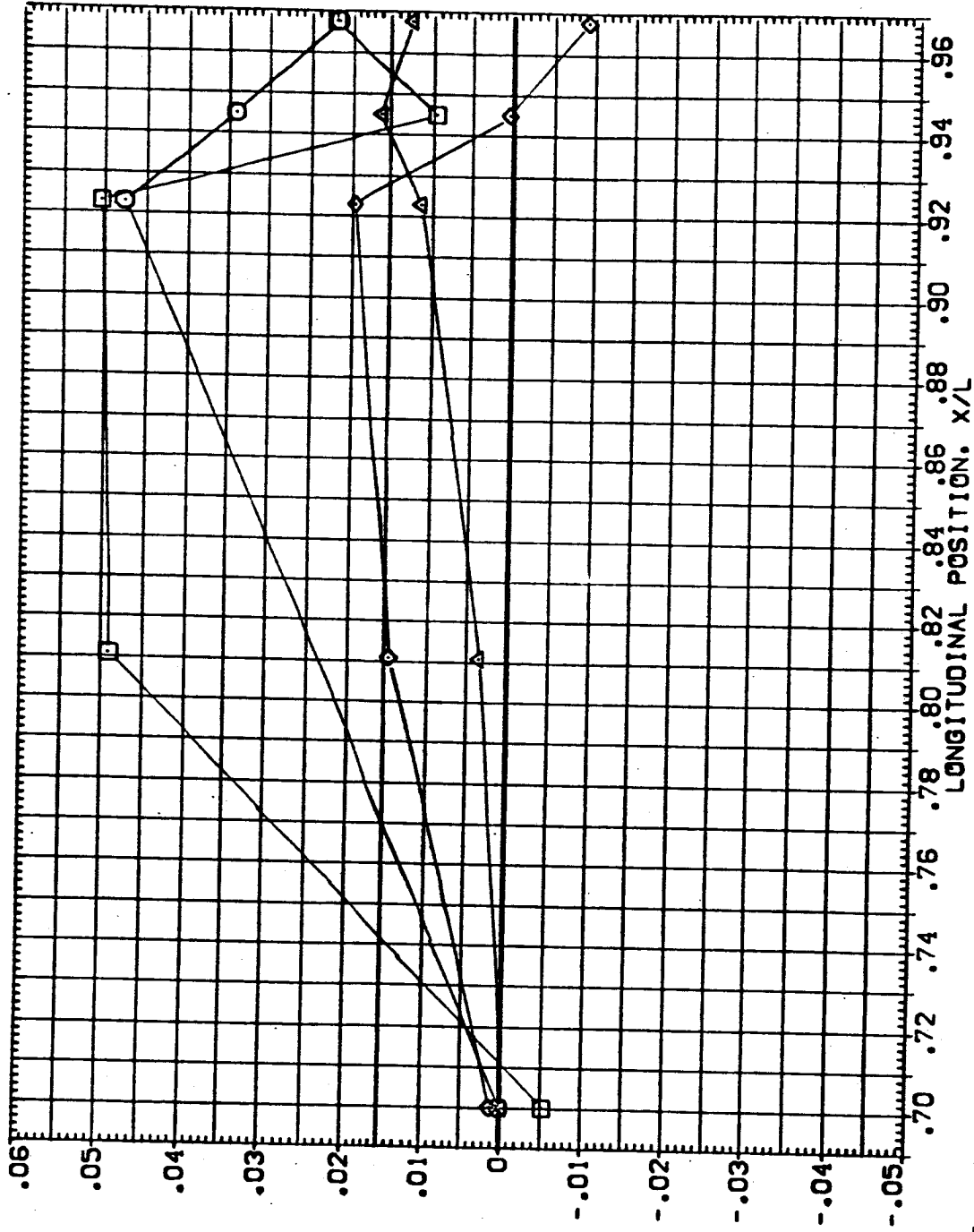


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL
 ○
 □
 ◇
 △

PHI
 .000
 90.000
 180.000
 270.000

BETA
 .000

ALPHA
 -4.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

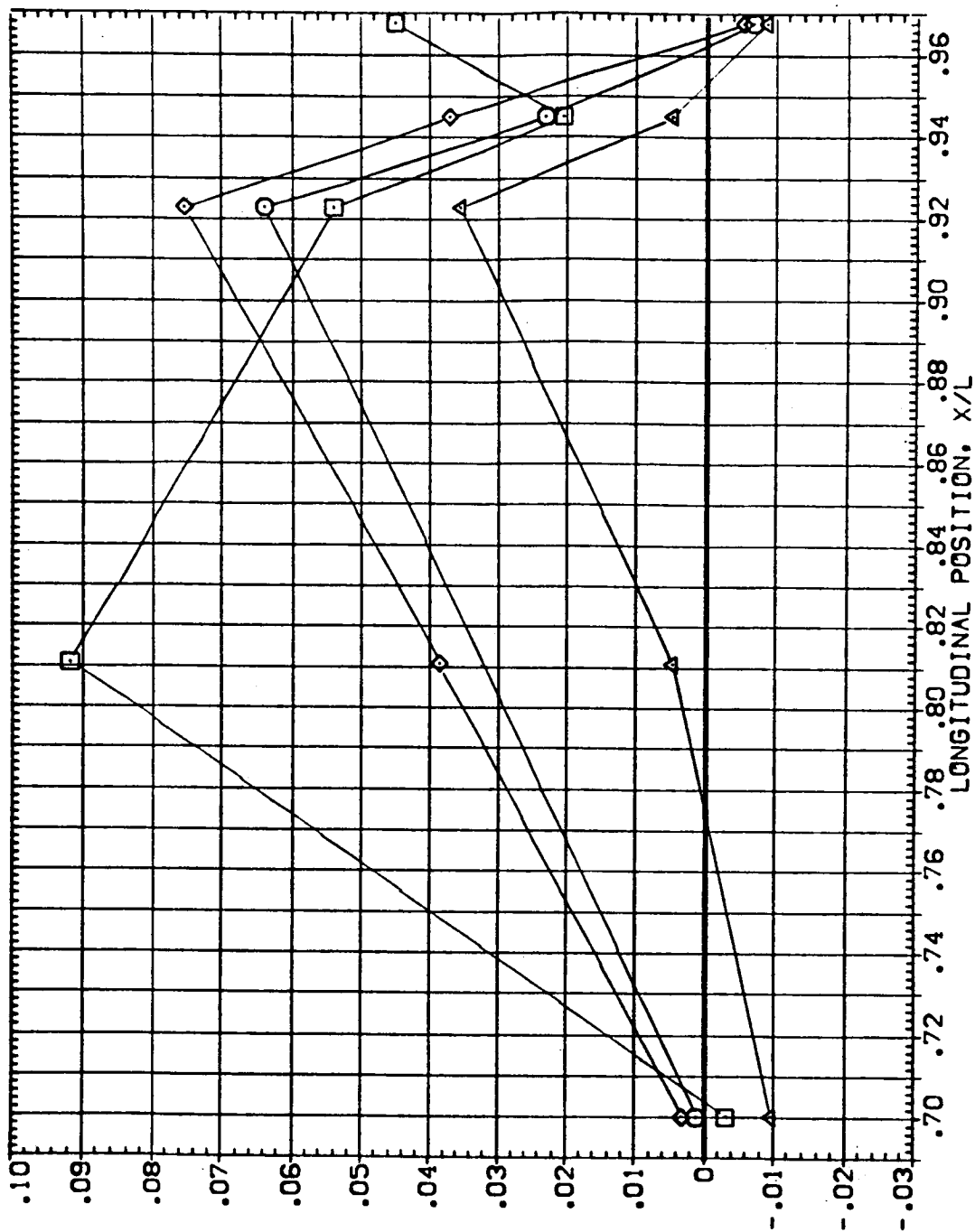


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (EEUS08)

SYMBOL	PHI	BETA	ALPHA	ELV-18	ELV-08
○	.000	.000	.000	RUDDER	MACH
□	90.000			GIMBAL	
◇	180.000				
△	270.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

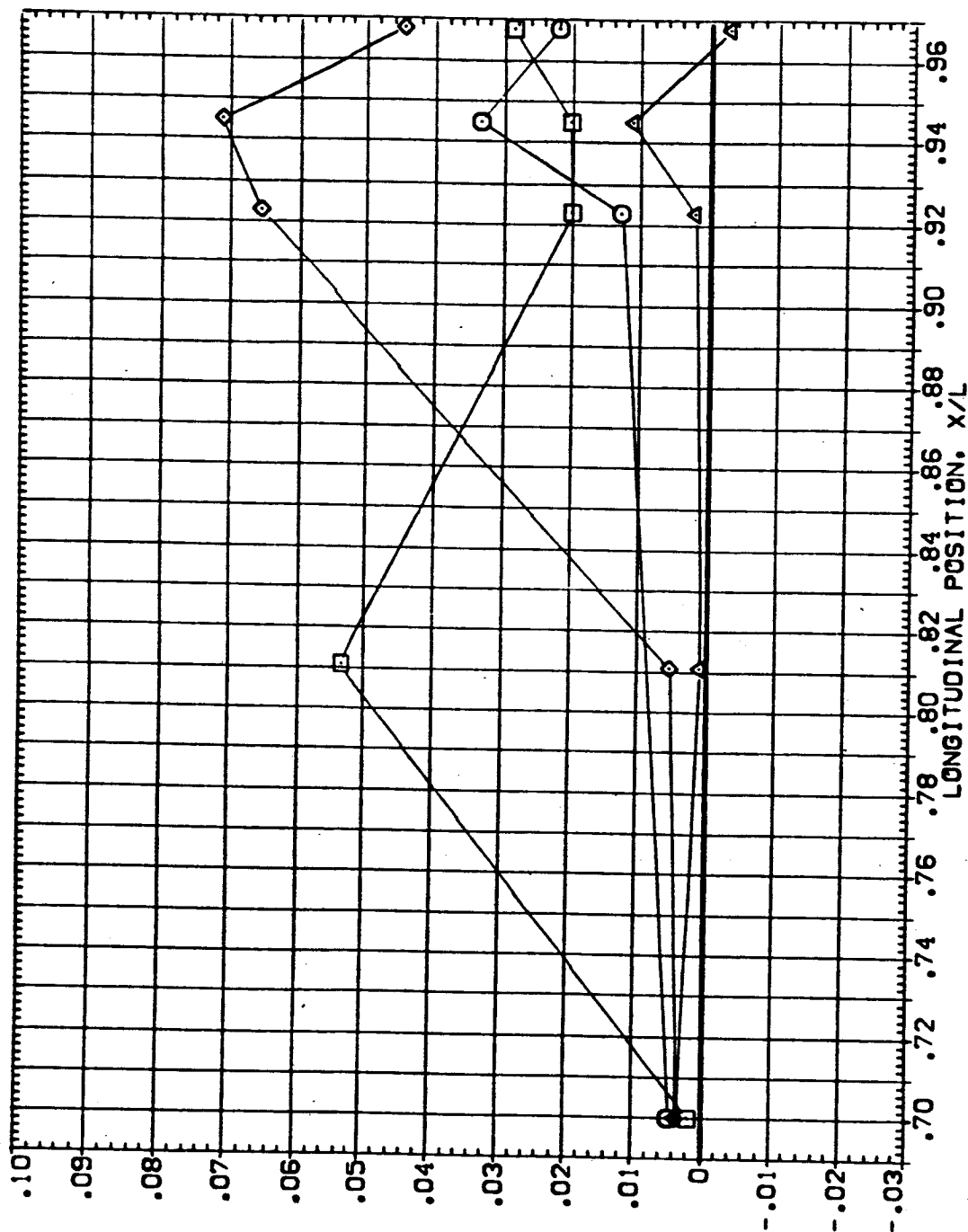


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OIS+STRUT SRB-NOM MPS-NOM SRB BODY (EEUS08)

SYMBOL PHI BETA ALPHA
 ○ .000 .000 4.000
 □ 90.000
 ◇ 180.000
 △ 270.000

PARAMETRIC VALUES
 ELV-1B 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.400
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

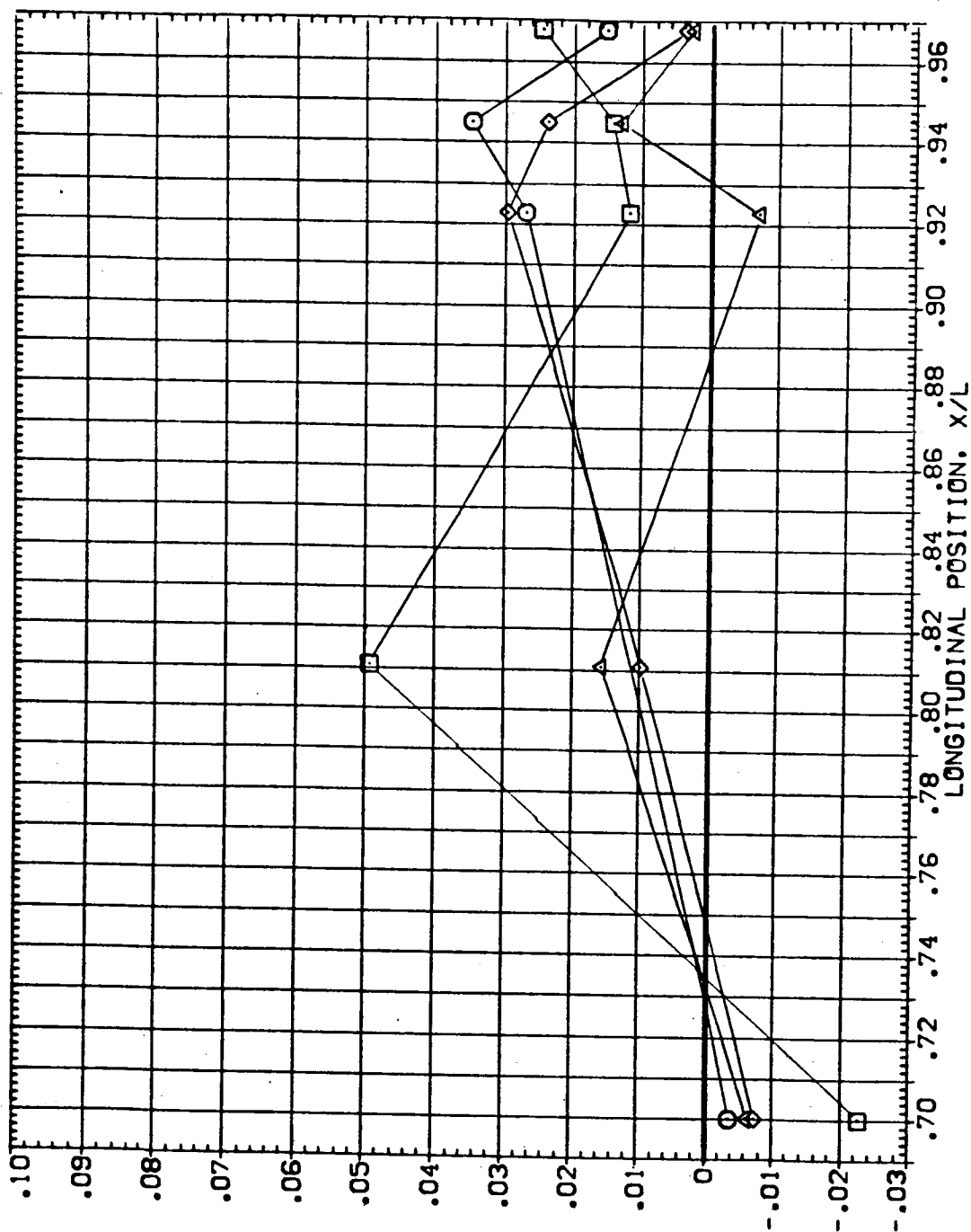


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM SRB BODY (FEUS08)

PHI	BETA	ALPHA	ELV-18	ELV-08
.000	-4.000	.000	RUDER	MACH
90.000			GIMBAL	
180.000				
270.000				

PARAMETRIC VALUES

8.000 1.000 4.000 1.400

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

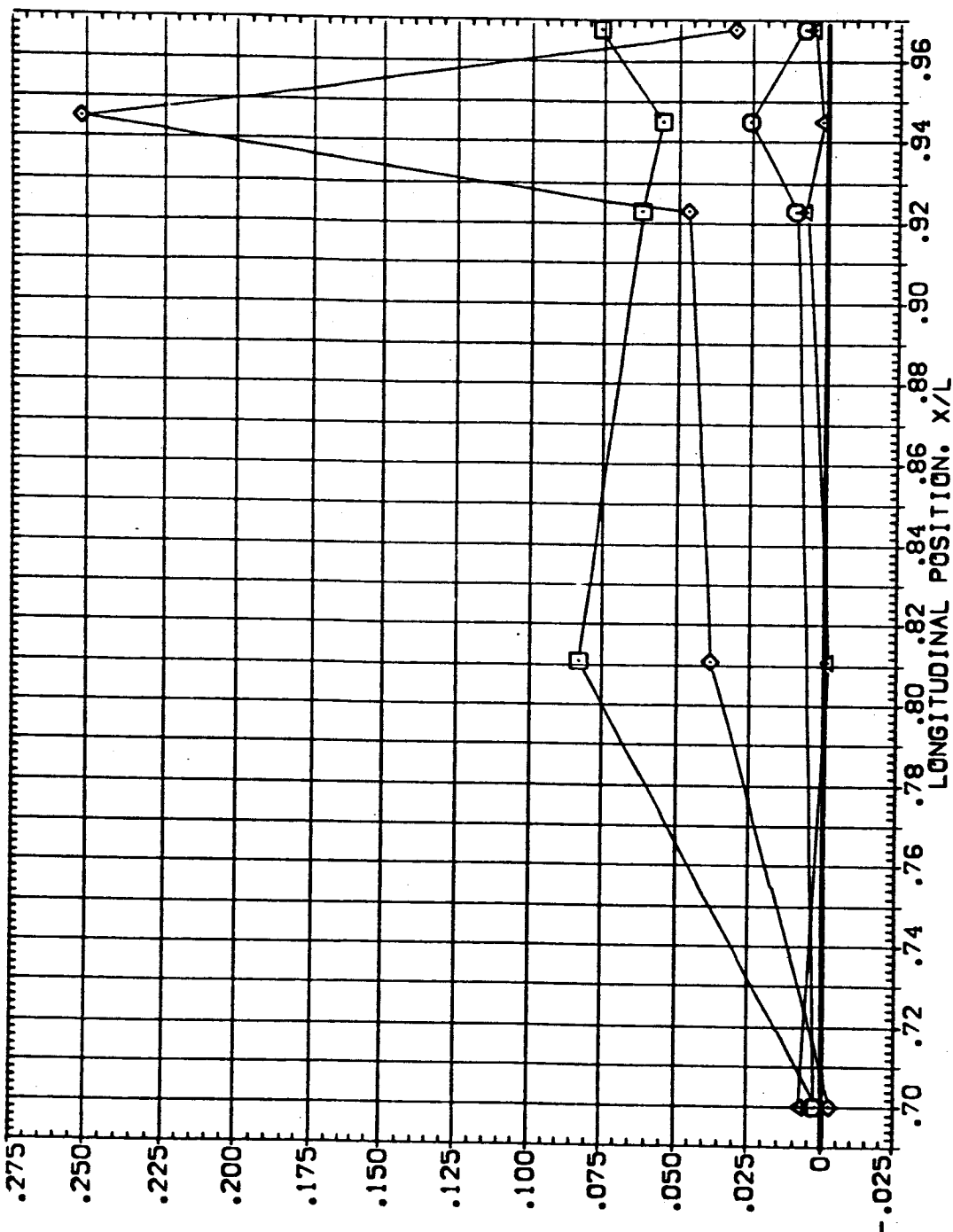


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

SYMBOL	PHI	BETA	ALPHA	ELV-18	ELV-08	PARAMETRIC VALUES
○	.000	4.000	.000	RUDER	.000	MACH
□	90.000			GIMBAL	1.000	
◇	180.000					
△	270.000					

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

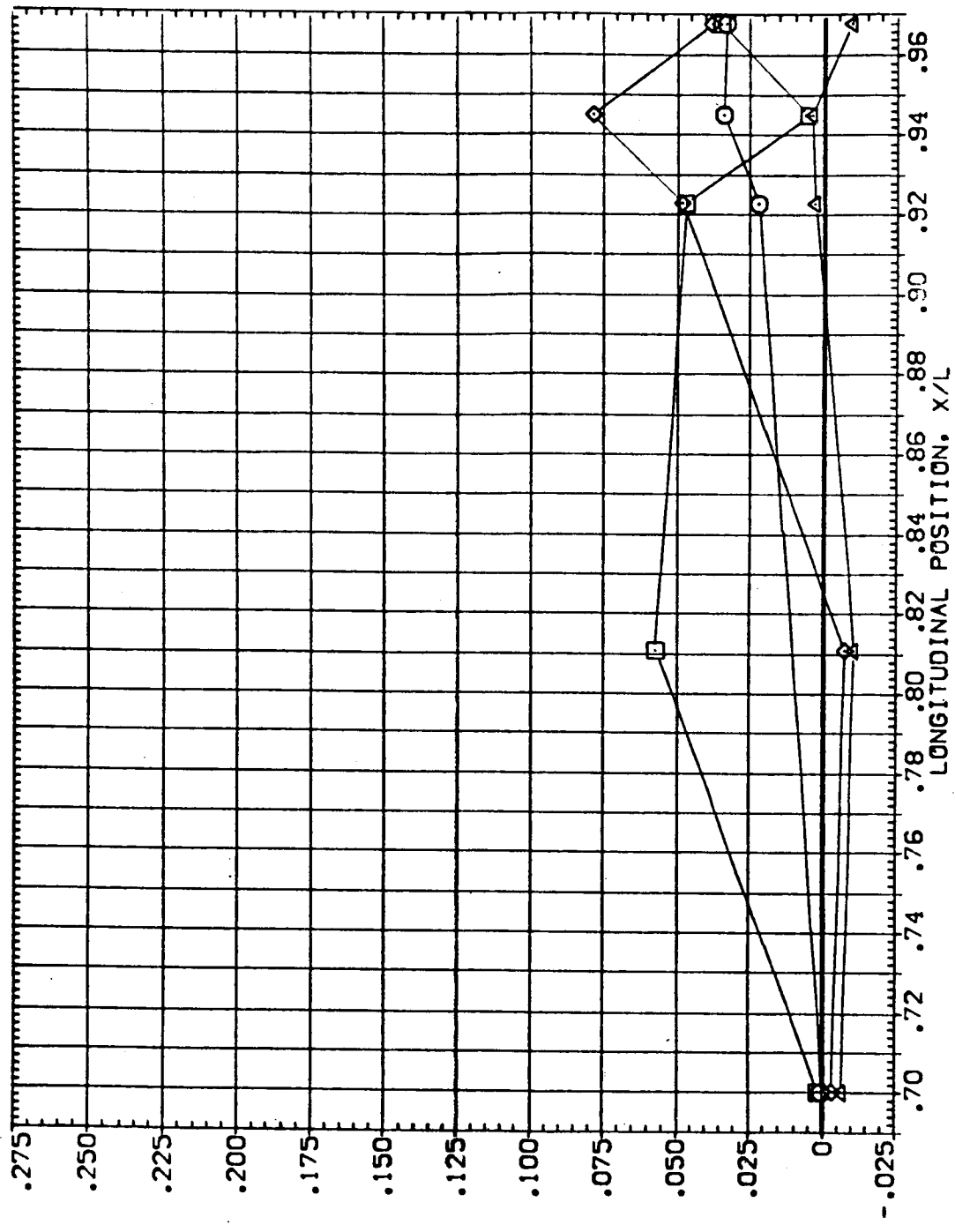


FIG. 106 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM AND MPS

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY(EUS13)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES	ELV-18	ELV-09
	.000	.000	-1.000		8.000	1.000
	90.000				RUDDER	MACH
	180.000				GIMBAL	
	270.000					

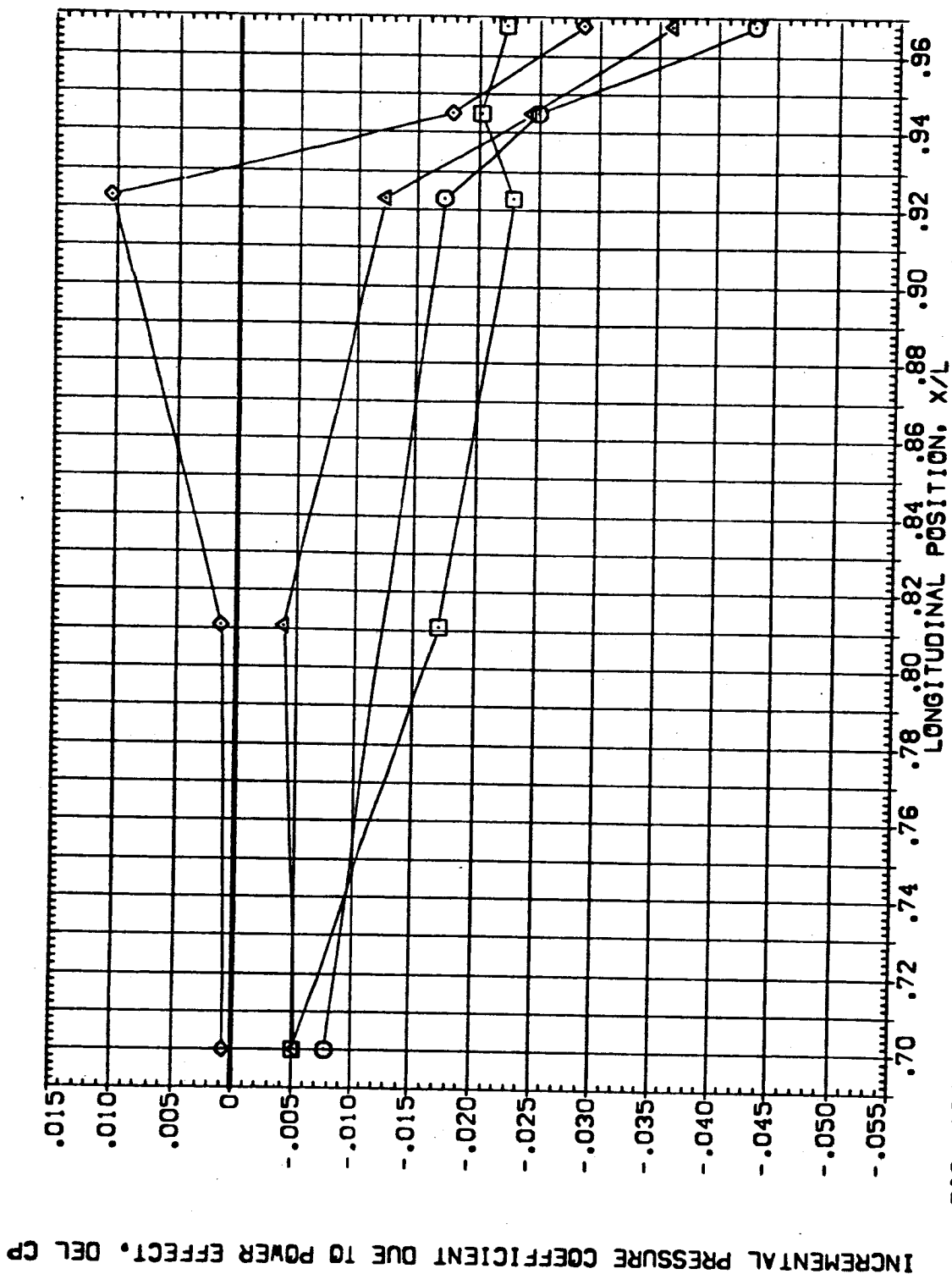


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (EEUS13)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08		
	.000	.000	.000	RUDER	MACH		
	90.000			61MBAL			
	180.000						
	270.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

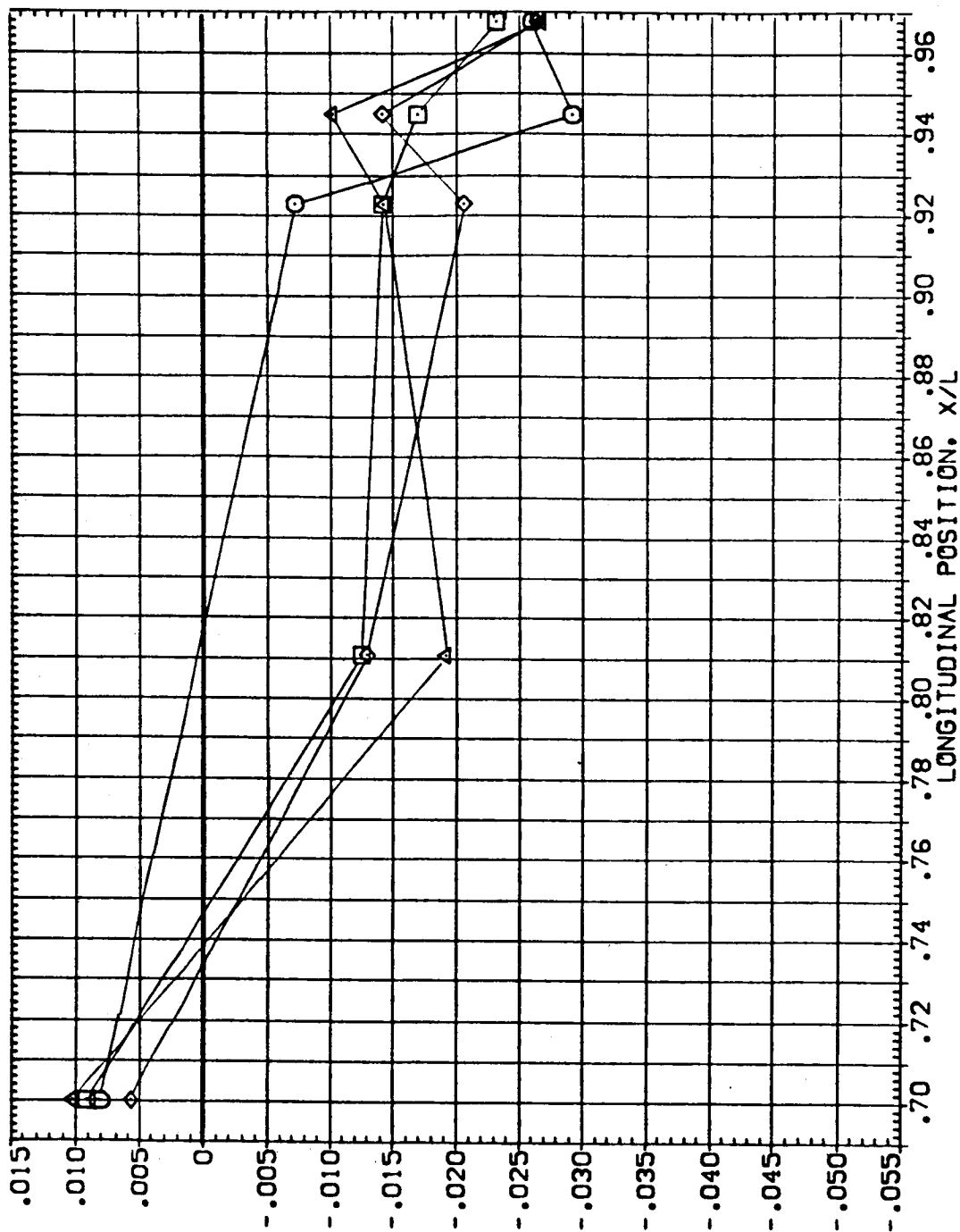


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY(EEU513)

SYMBOL PHI BETA ALPHA
 □ .000 .000 1.000
 ◇ 90.000
 △ 180.000
 ▽ 270.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH .900
 GIMBAL 1.000

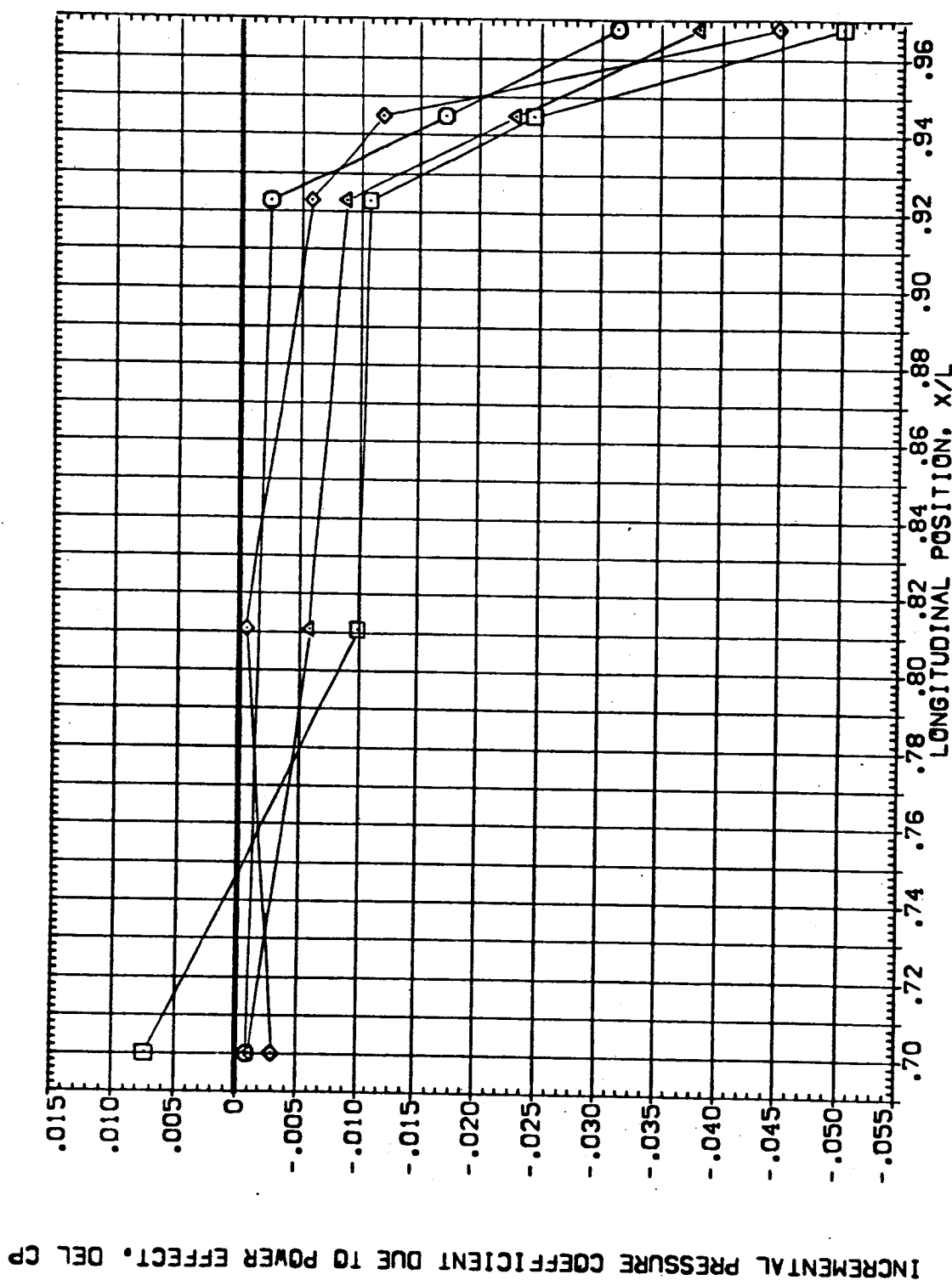


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	
○	.000	-1.000	.000	RUDER	.000	MACH	1.000
□	90.000			GIMBAL	1.000		
◇	180.000						
△	270.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

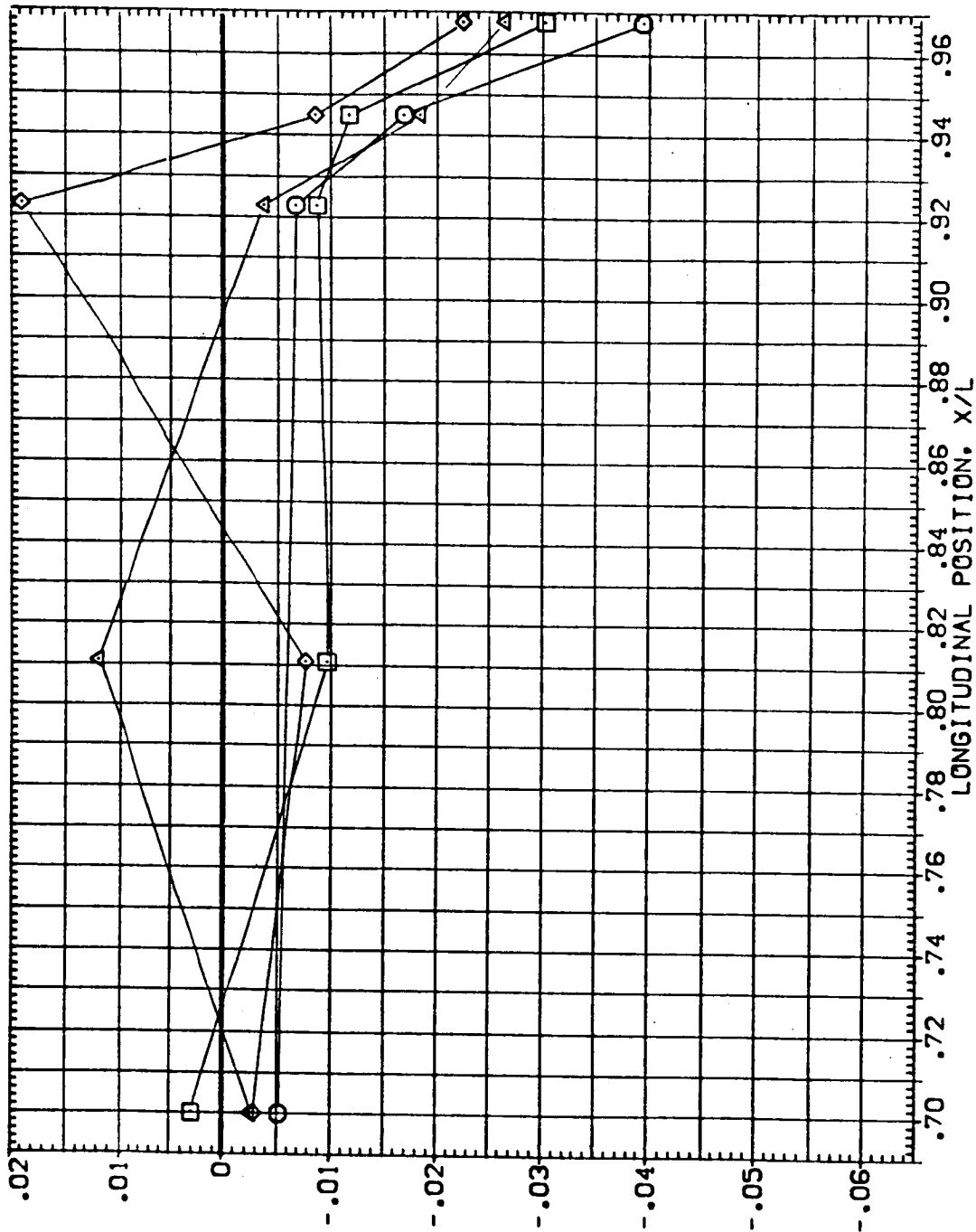


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (FEUS13)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	ELV-08	MACH
○	.000	4.000	.000	8.000	.000	1.000	4.000
□	90.000			RUDDER			.900
◇	180.000			GIMBAL			1.000
△	270.000						

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

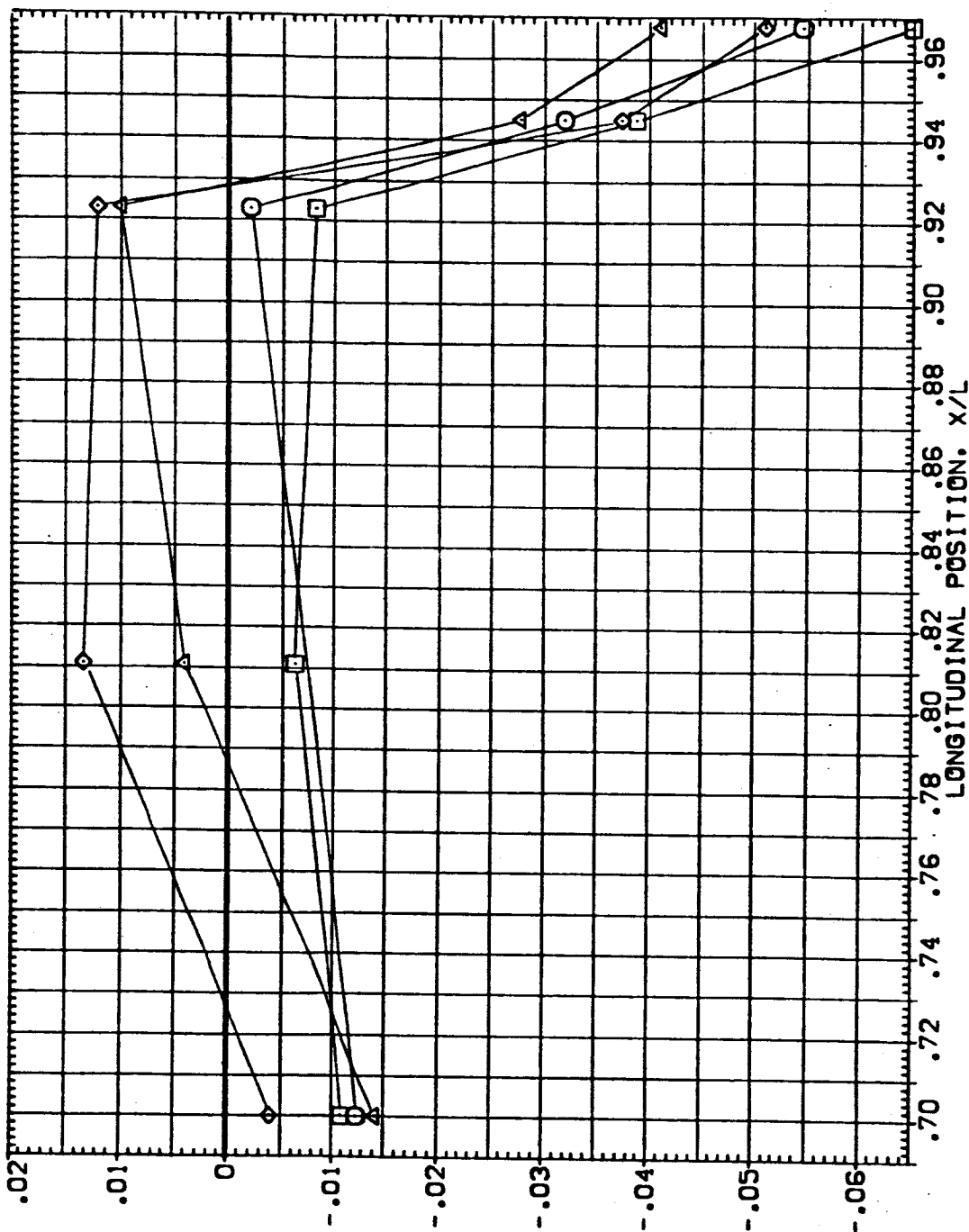


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY(EUS14)

SYMBOL	PHI	BETA	ALPHA	ELV-18	ELV-08
○	.000	.000	-1.000	RUDER	MACH
□	90.000			0180AL	
△	180.000				
	270.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

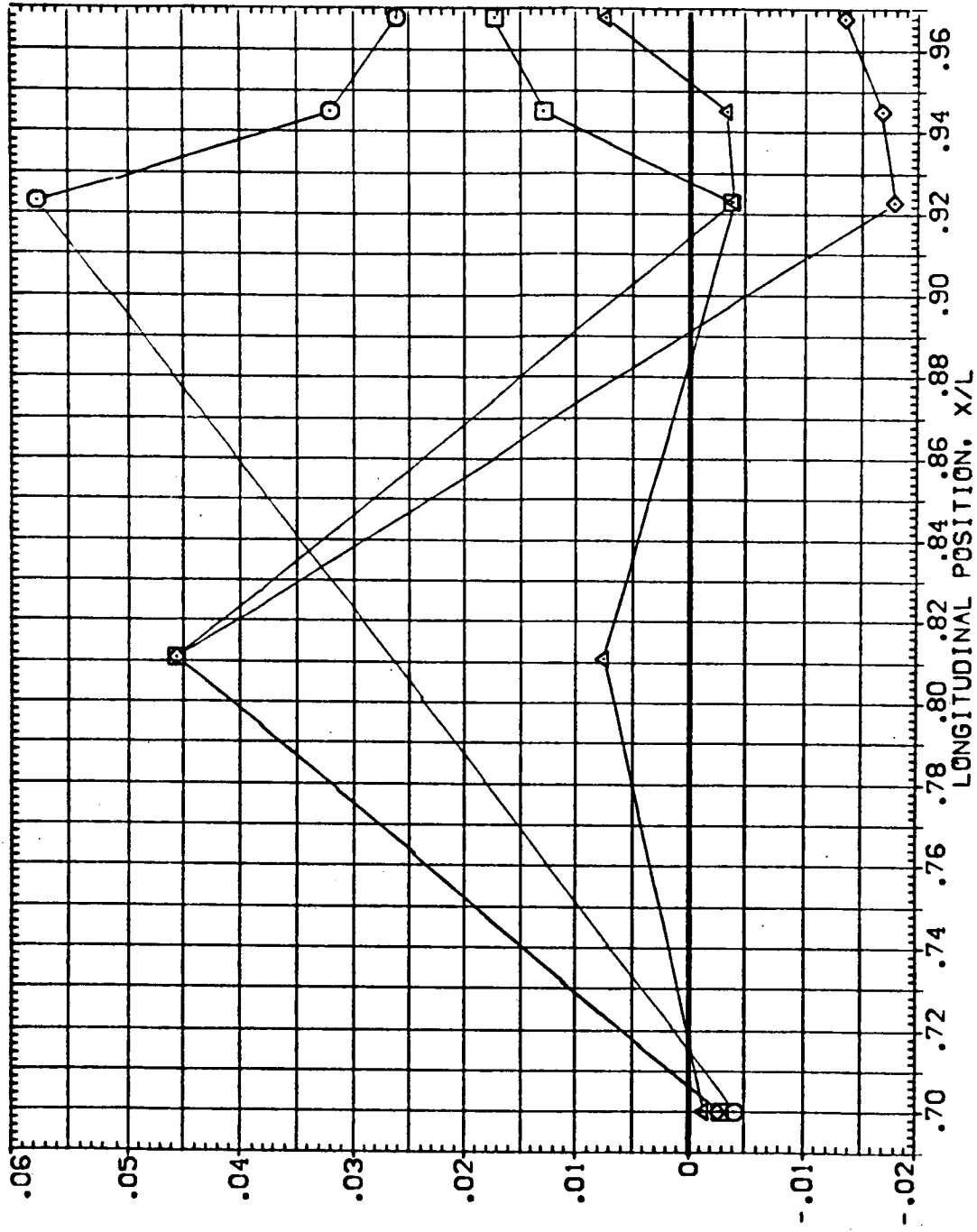


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (EEUS14)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	MACH	
○	.000	.000	.000		8.000	1.000	4.000
□	90.000			RUDER			1.100
◇	180.000			GIMBAL			
△	270.000						

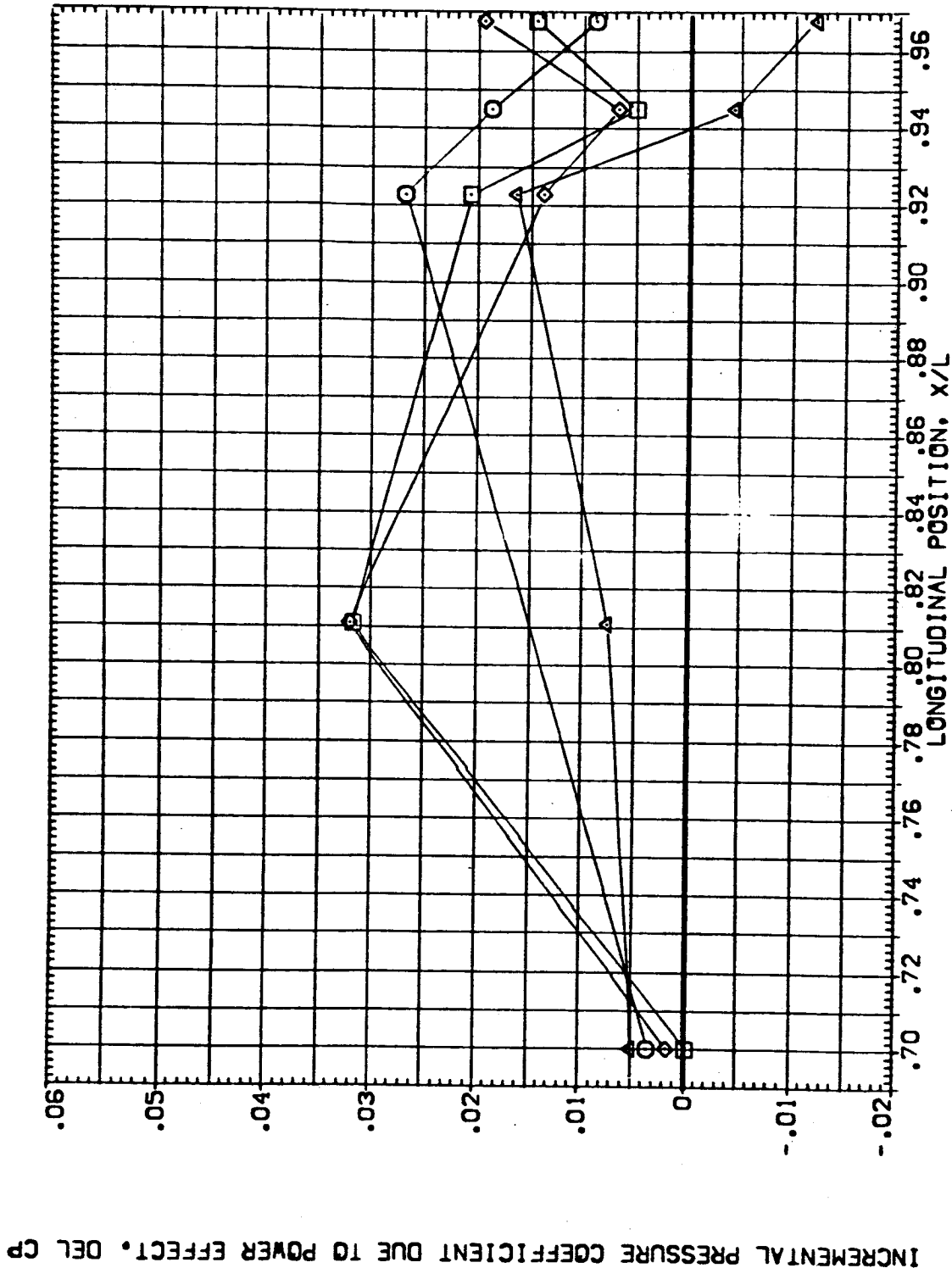


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (EEUS14)

SYMBOL PHI BETA ALPHA
 ○ .000 .000 4.000
 □ 90.000
 ◇ 180.000
 △ 270.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 4.000
 RUDDER .000 MACH 1.100
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

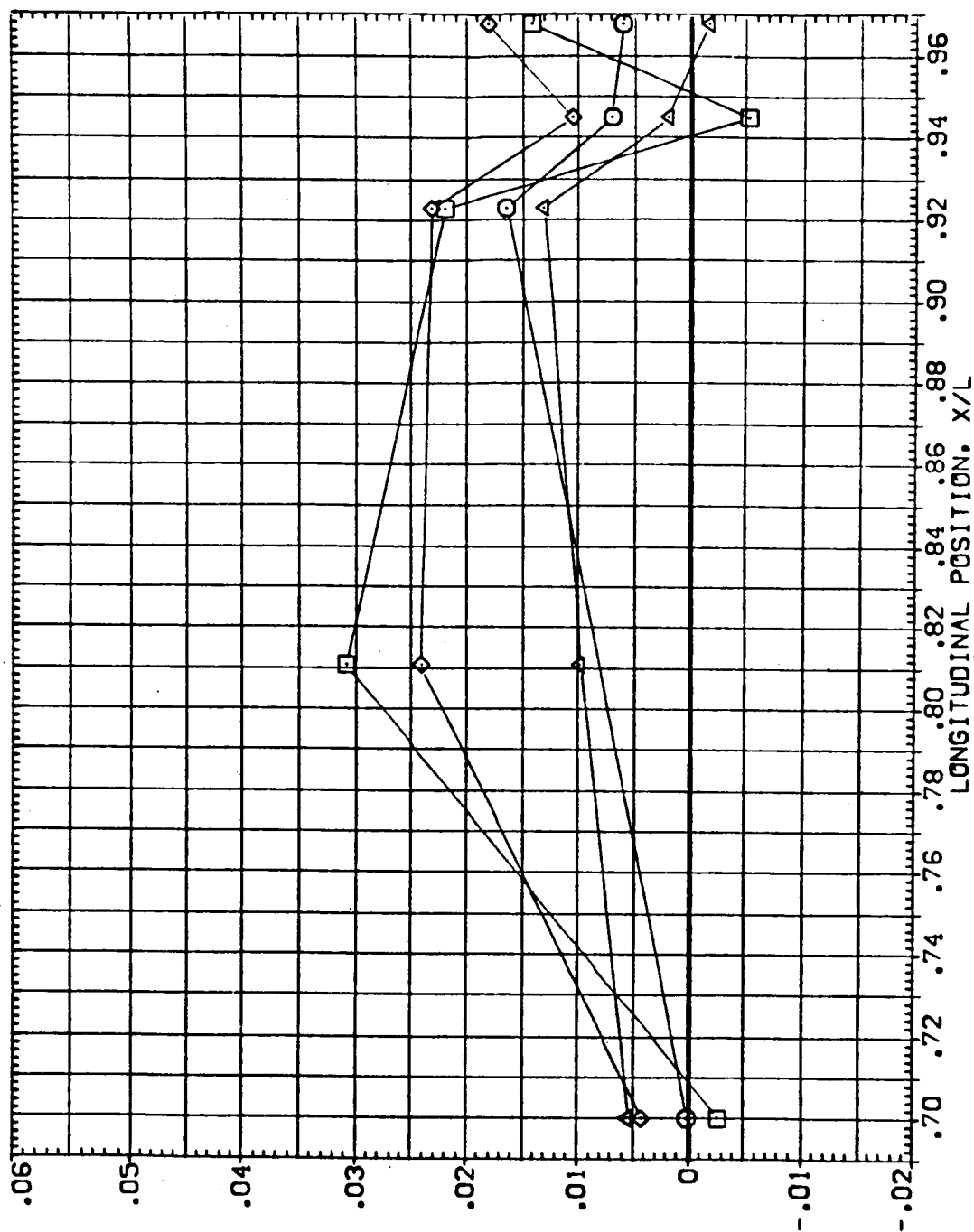


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (FEUS14)

SYMBOL	PHI	BETA	ALPHA	ELV-18	ELV-08
○	.000	-4.000	.000	RUDDER	MACH
□	90.000				
◇	180.000				
△	270.000				

PARAMETRIC VALUES
8.000 4.000
.000 1.000
1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

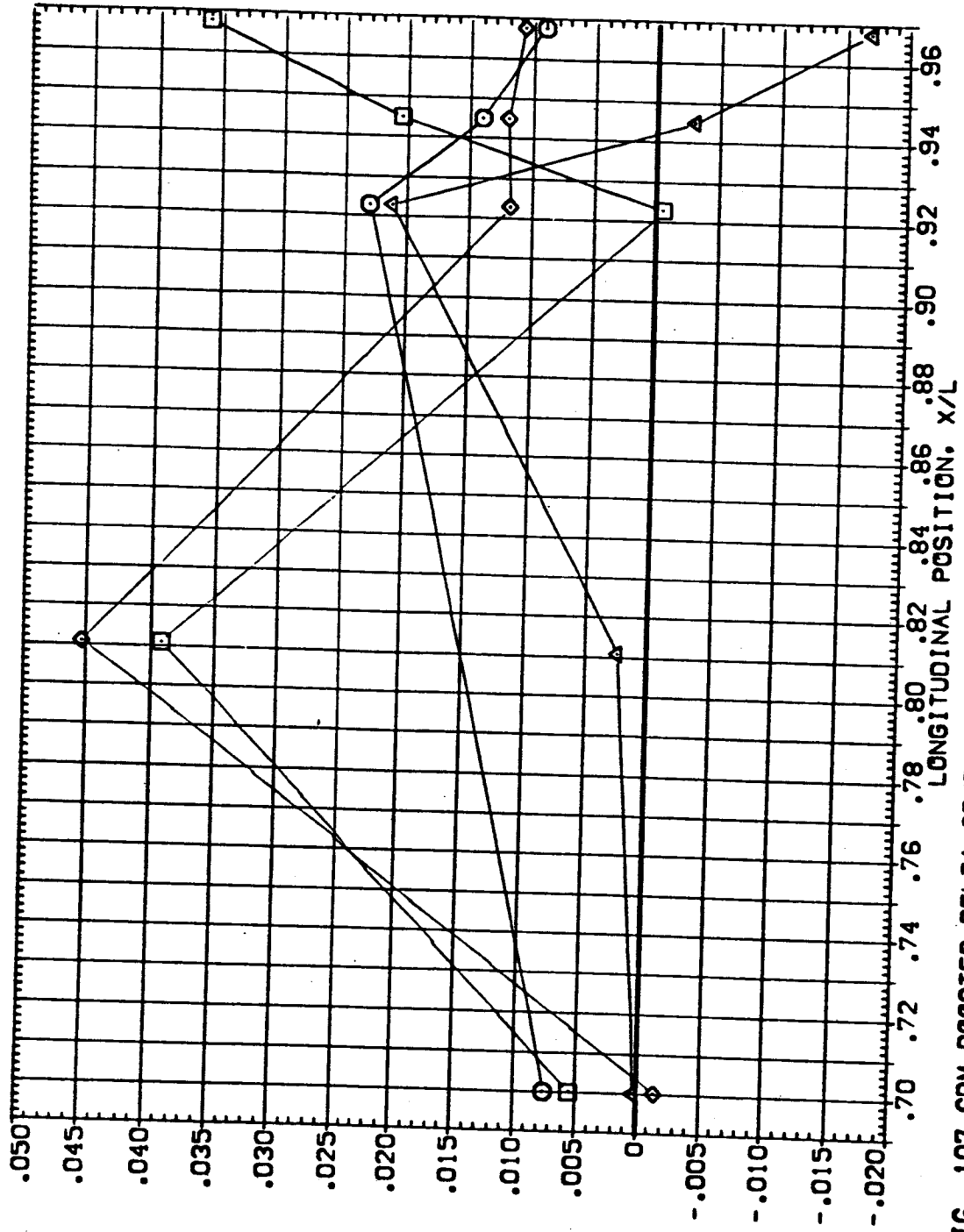


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	8.000	ELV-08	4.000
				RUDER	.000	MACH	1.100
				GIMBAL	1.000		

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

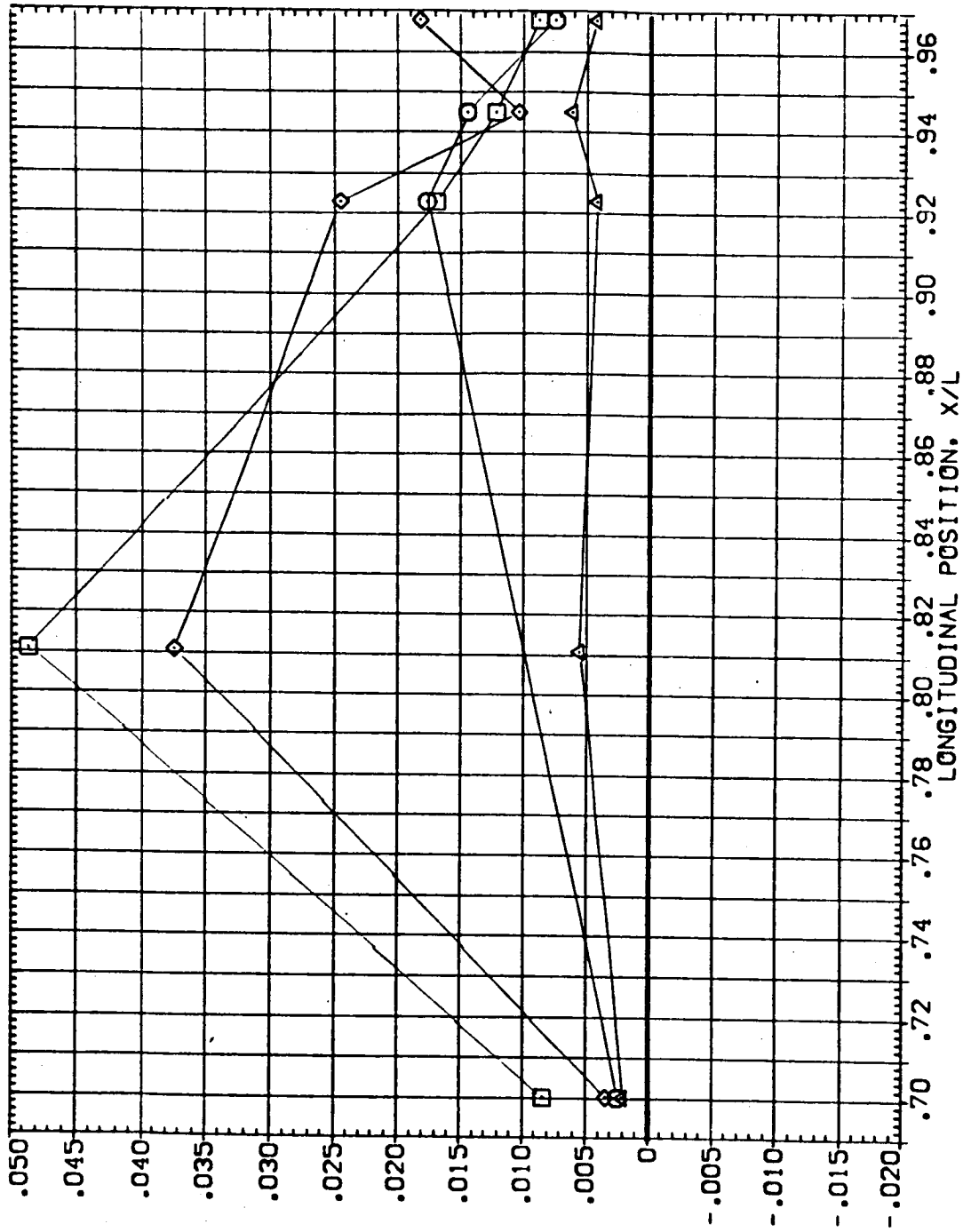


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (EEUS15)

SYMBOL PHI BETA ALPHA
 □ .000
 ◇ 90.000
 △ 180.000
 ▽ 270.000

PARAMETRIC VALUES
 ELV-18 8.000 ELV-08 1.000
 RUDDER .000 MACH 1.250
 GIMBAL 1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

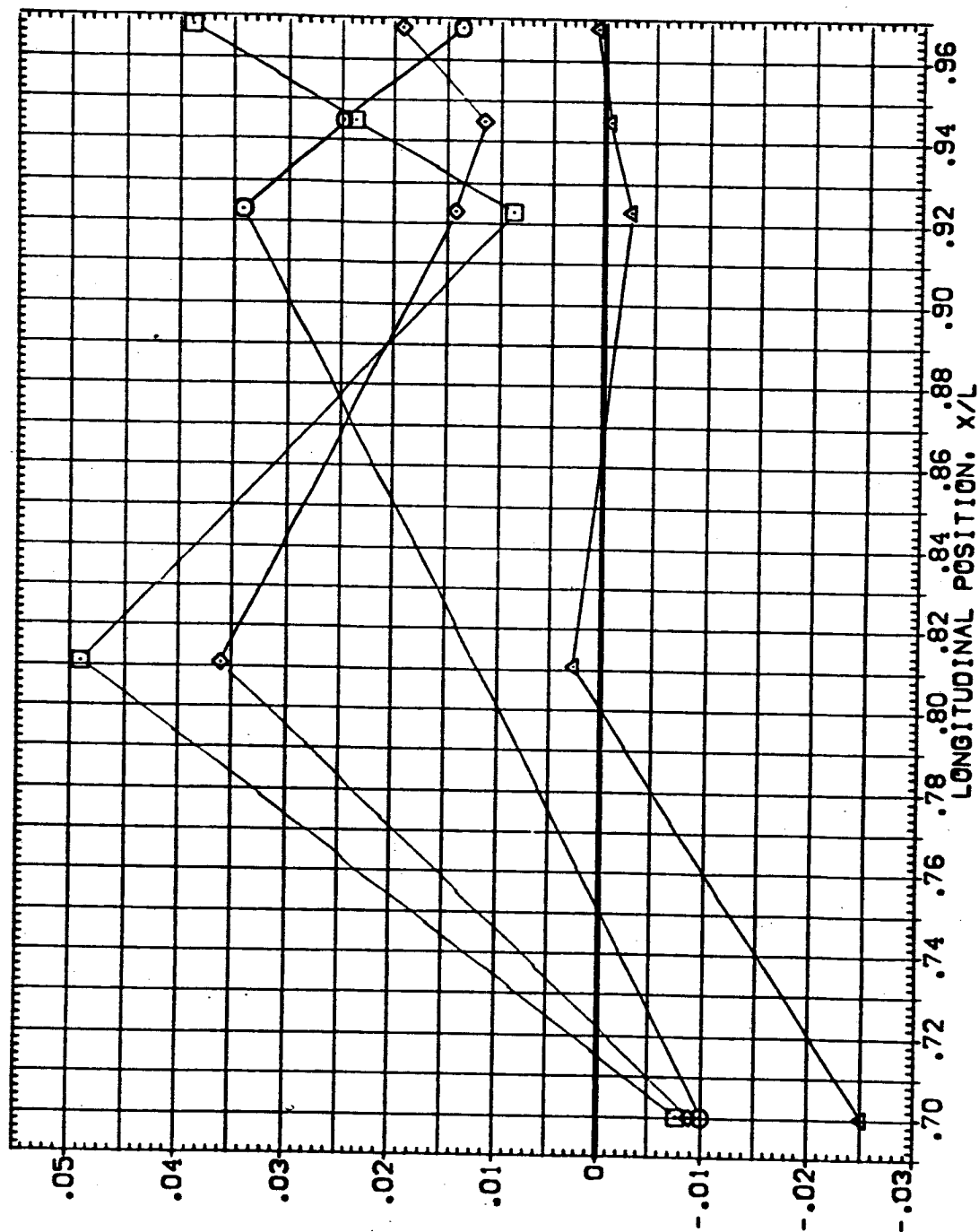


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (EEUS15)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES			
				ELV-18	ELV-08	HACH	
○	.000	.000	.000	8.000	8.000	1.000	4.000
□	90.000	.000	.000	RUDDER	.000	1.250	
◇	180.000			GIMBAL	1.000		
△	270.000						

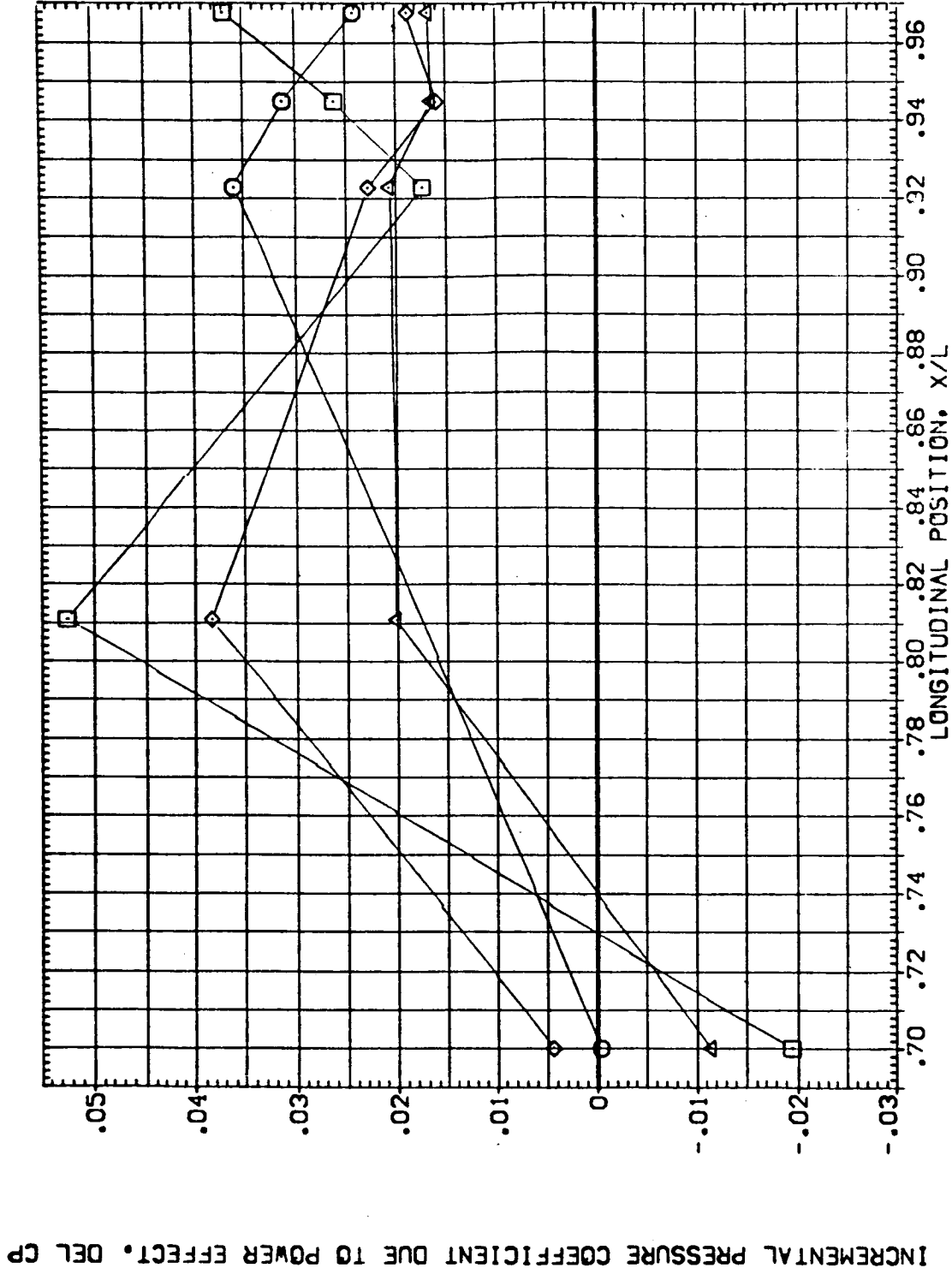


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (EEUS15)

SYMBOL	PHI	BETA	ALPHA	ELV-18	ELV-08	PARAMETRIC VALUES
○	.000	.000	4.000	8.000	8.000	4.000
□	90.000			RUDDER		1.250
◇	180.000			GIMBAL	1.000	
△	270.000					

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

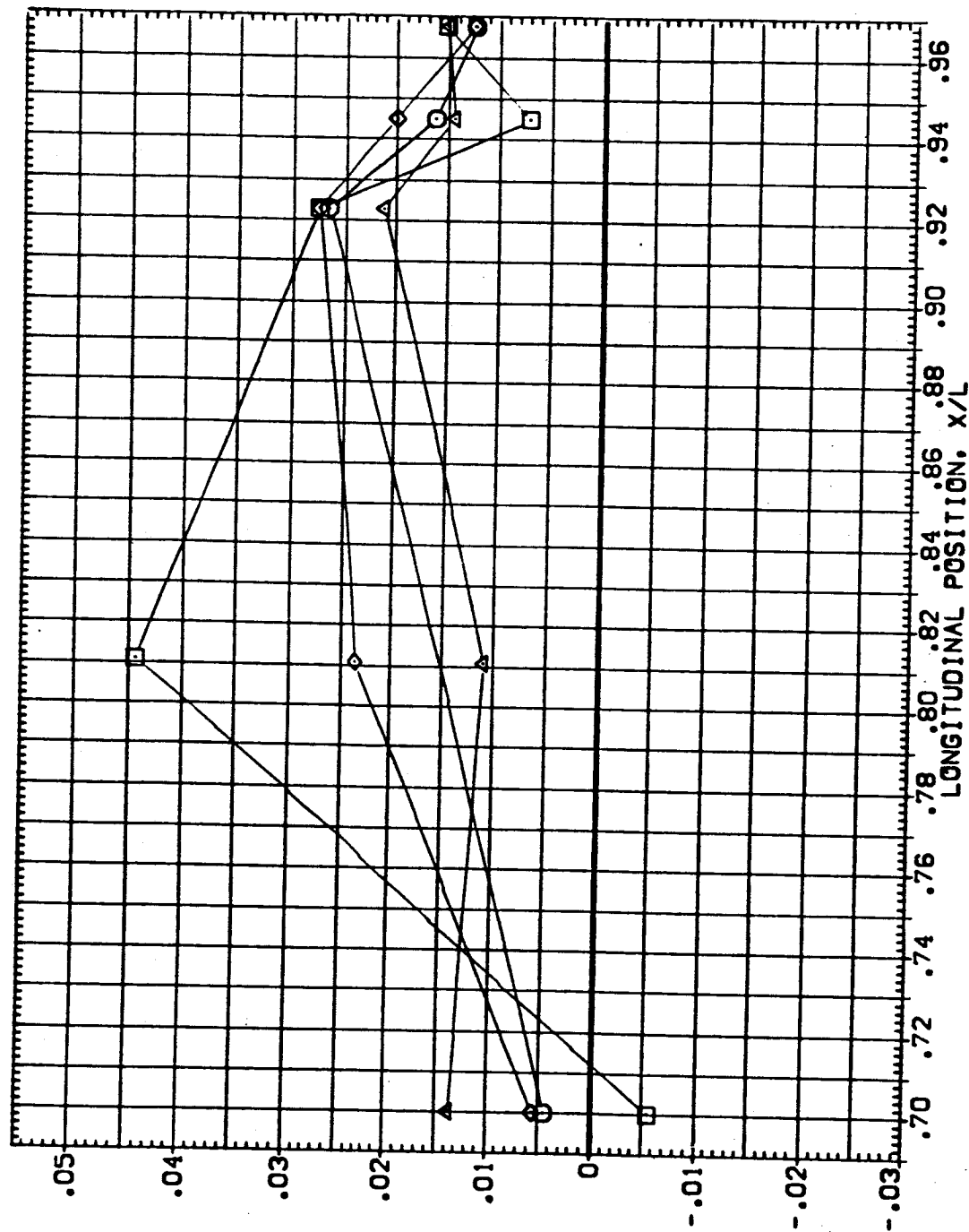


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

AKU11-UI41A19 UIS+SIRUT SRB-NOM MPS-OFF SRB BODY(FEUS15)

PHI	BETA	ALPHA	ELV-1B	ELV-08
.000	-4.000	.000	RUDDER	MACH
90.000			GIMBAL	
180.000				
270.000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

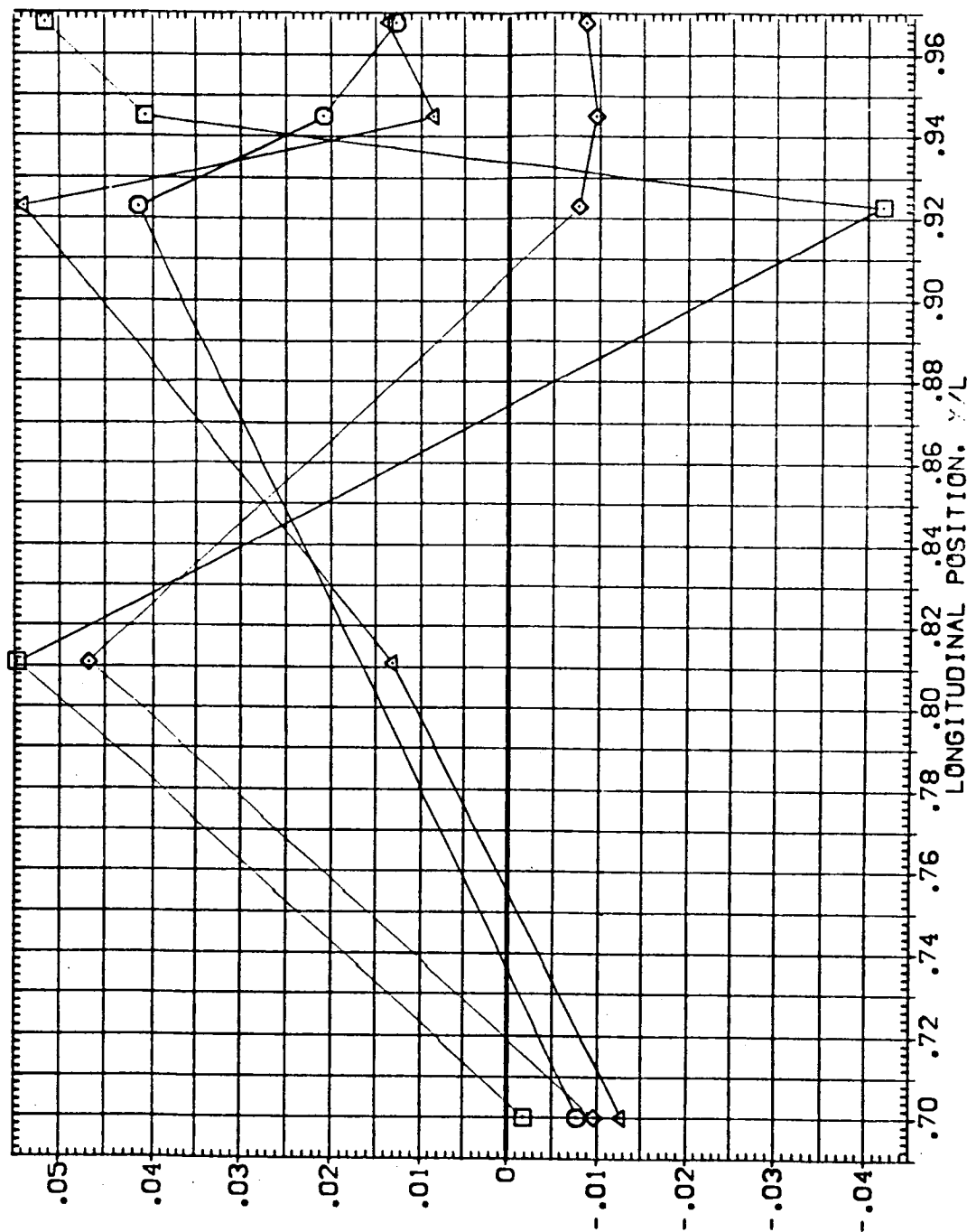


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (FEUS15)

PHI	BETA	ALPHA	ELV-18	PARAMETRIC VALUES
.000	1.000	.000	RUDER	8.000
90.000			GIMBAL	.000
180.000				1.000
270.000				4.000

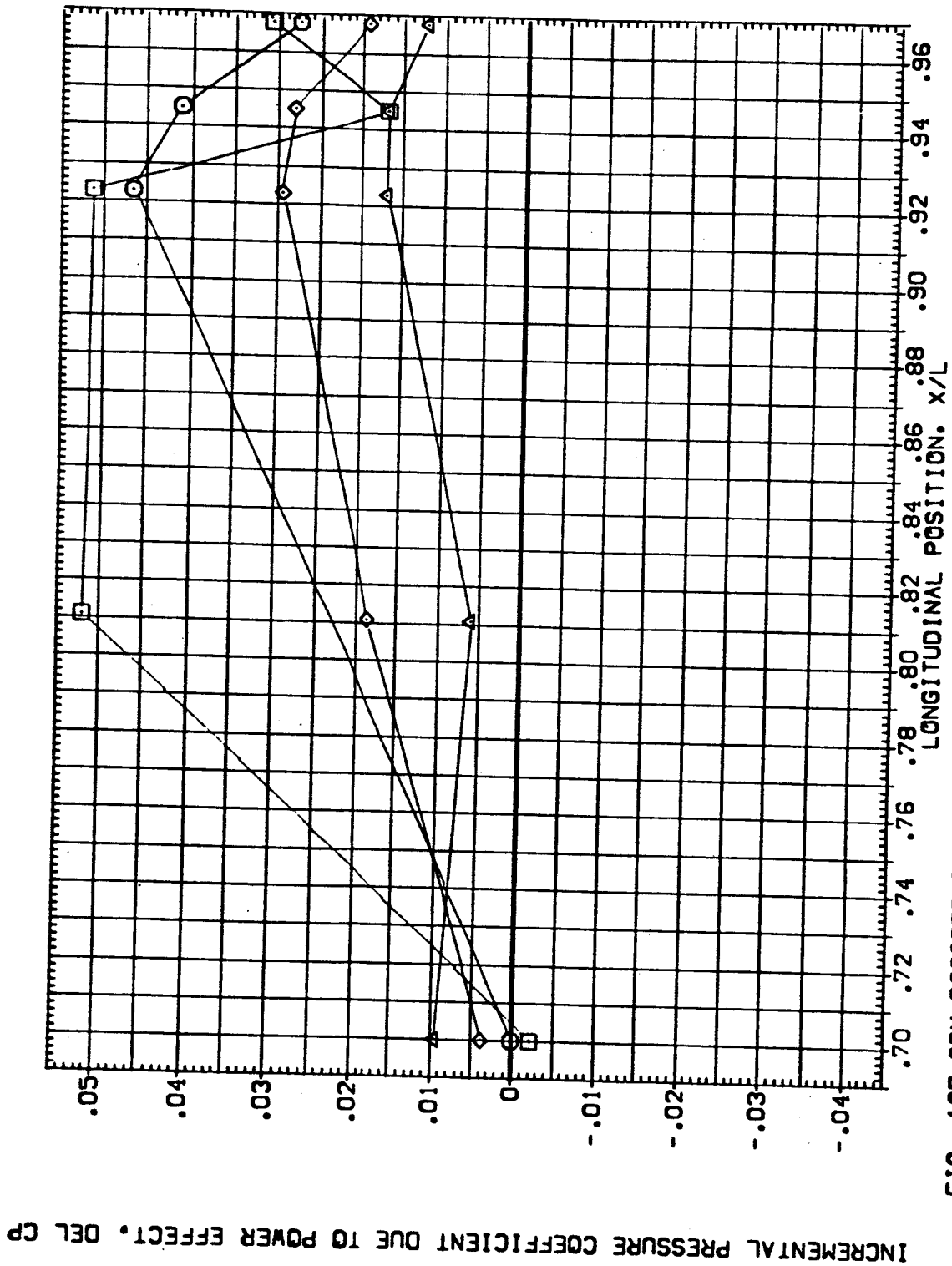


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (EEUS16)

SYMBOL
 PH1
 .000
 90.000
 180.000
 270.000

BETA
 .000
 -4.000

PARAMETRIC VALUES
 ELV-18
 RUDDER
 GIMBAL
 8.000
 .000
 1.000
 ELV-08
 MACH
 4.000
 1.400

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

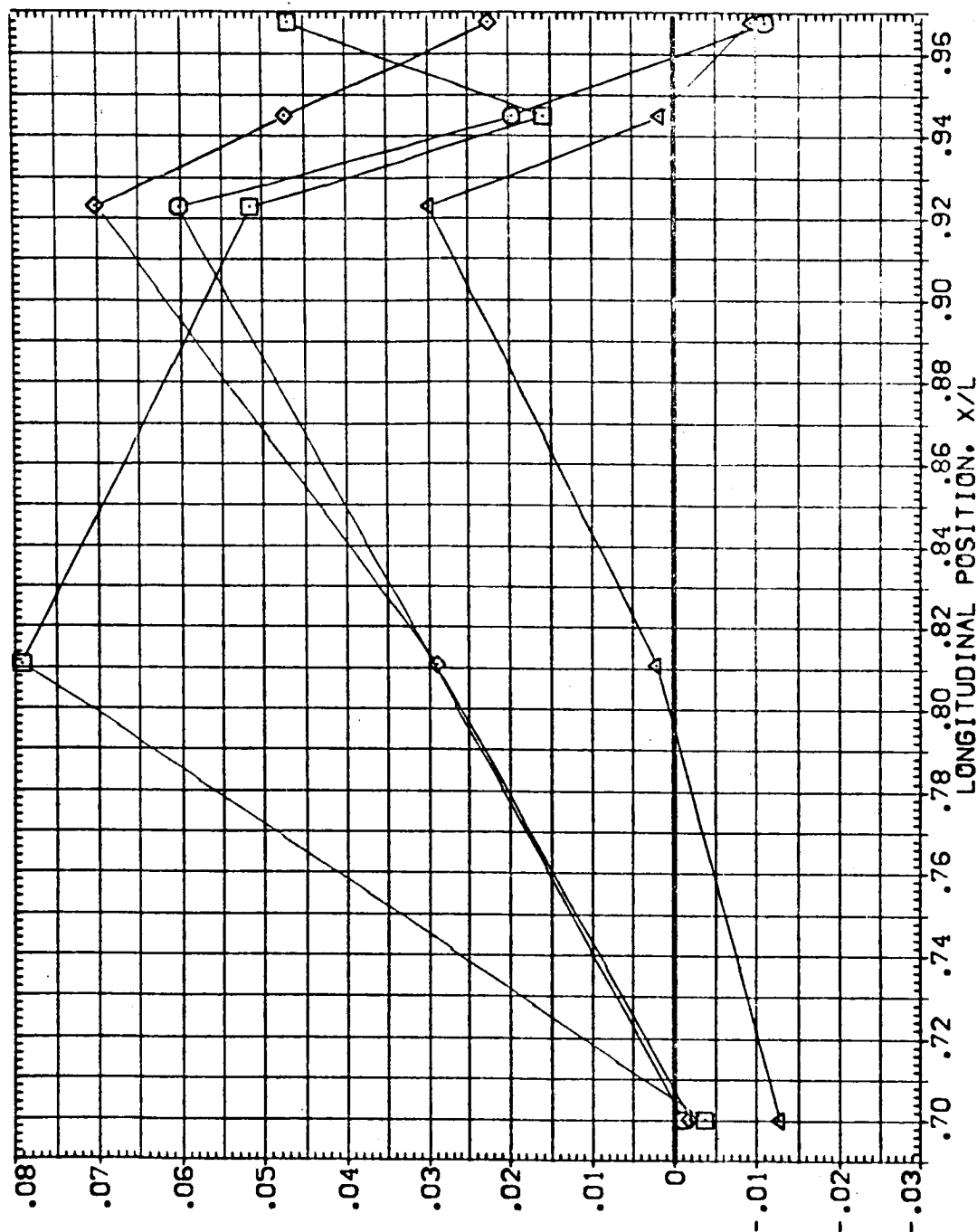


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY (EEUS16)

SYMBOL	PHI	BETA	ALPHA	ELV-18	ELV-08
◇	.000	.000	.000	RUDDER	MACH
□	90,000			GIMBAL	
◇	180,000				
◇	270,000				

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

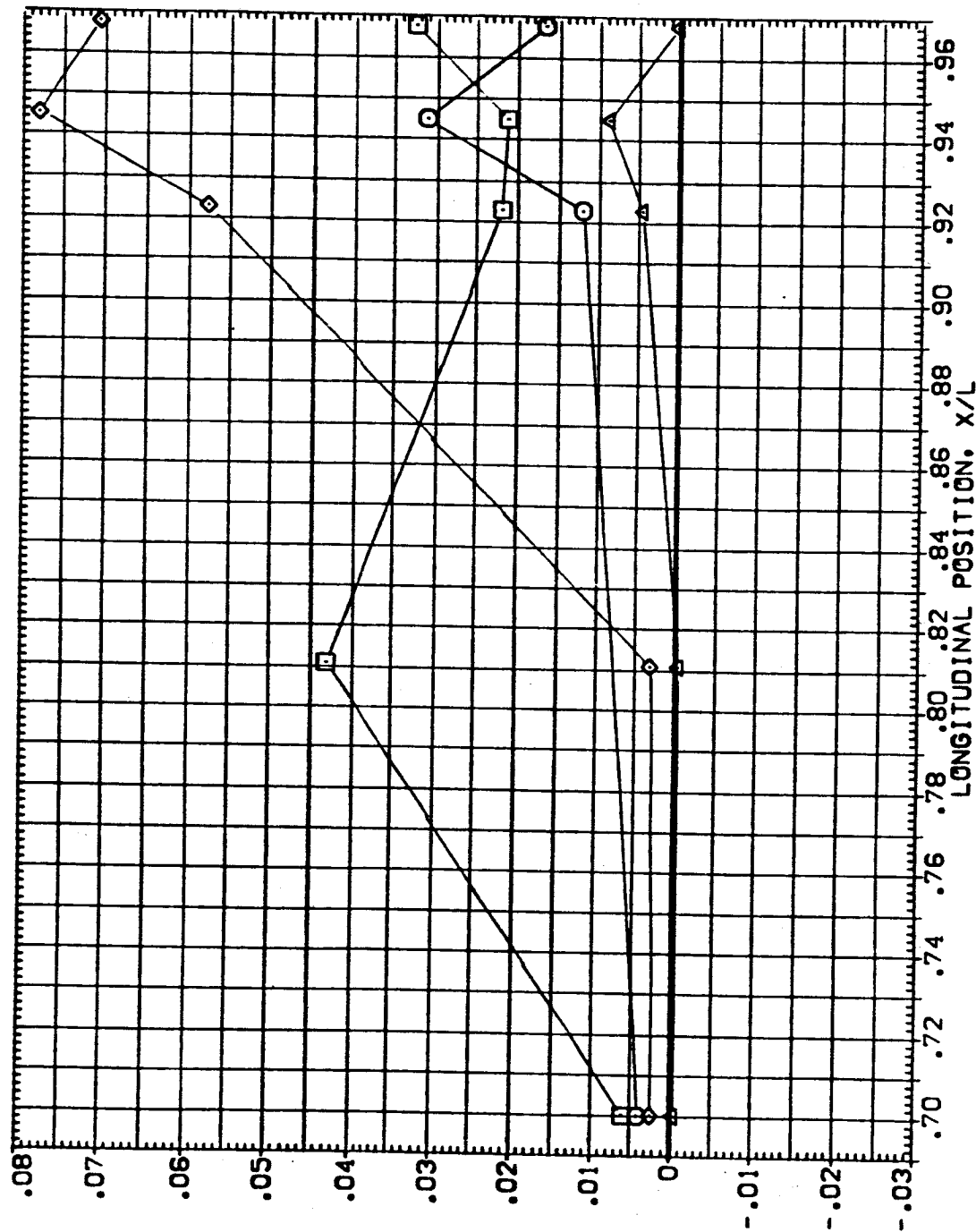


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY(EEUS16)

SYMBOL	PHI	BETA	ALPHA	PARAMETRIC VALUES
○	.000	.000	4.000	ELV-IB 8.000 ELV-OB 4.000
□	90.000			RUDER .000 MACH 1.400
◇	180.000			GIMBAL 1.000
△	270.000			

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

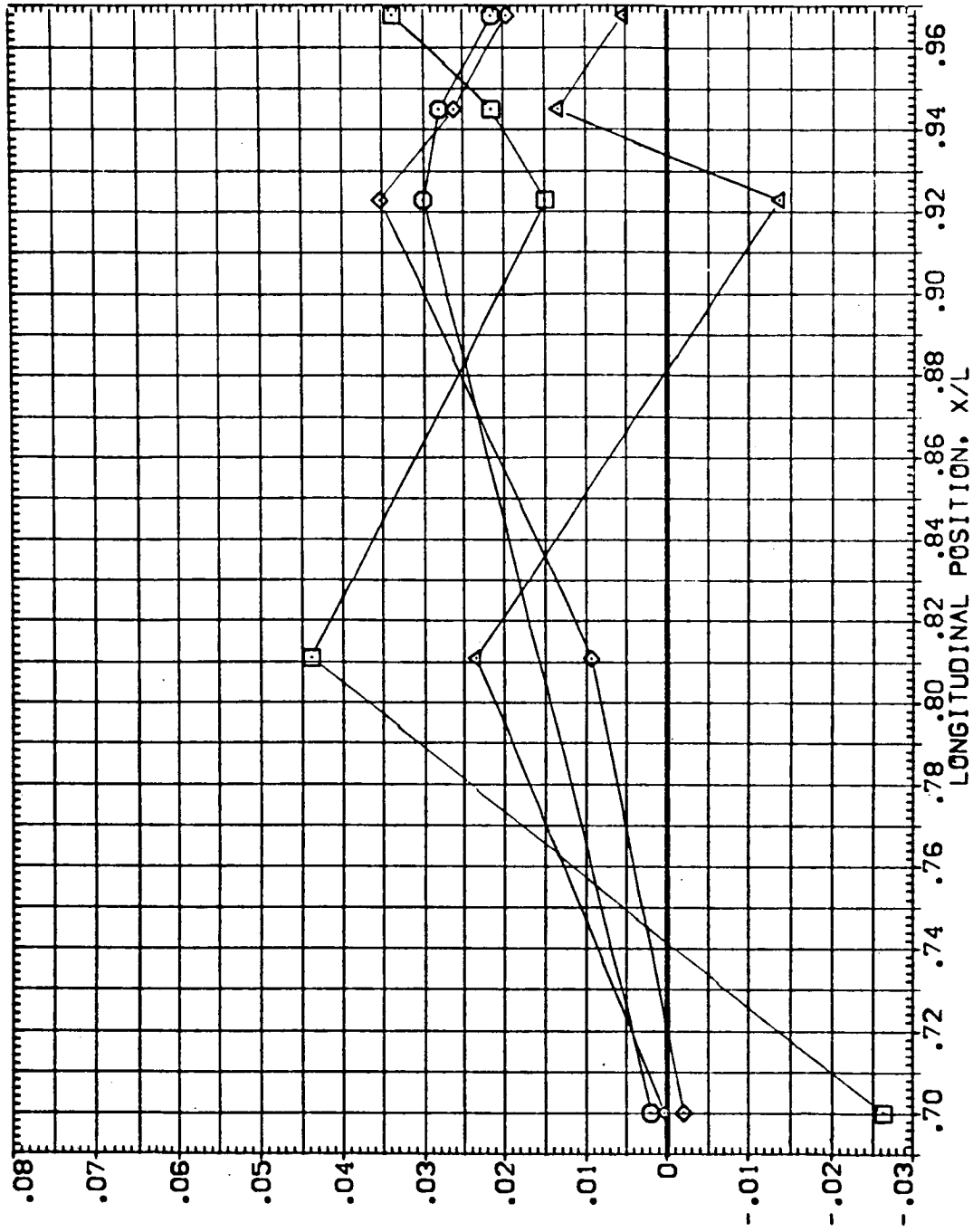


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF



ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF SRB BODY(FEUS16)

PHI	BETA	ALPHA	ELV-18	ELV-08
.000	-4.000	.000	8.000	4.000
90.000			RUDDER	MACH
180.000			0.000	1.400
270.000			GIMBAL	1.000

INCREMENTAL PRESSURE COEFFICIENT DUE TO POWER EFFECT, DEL CP

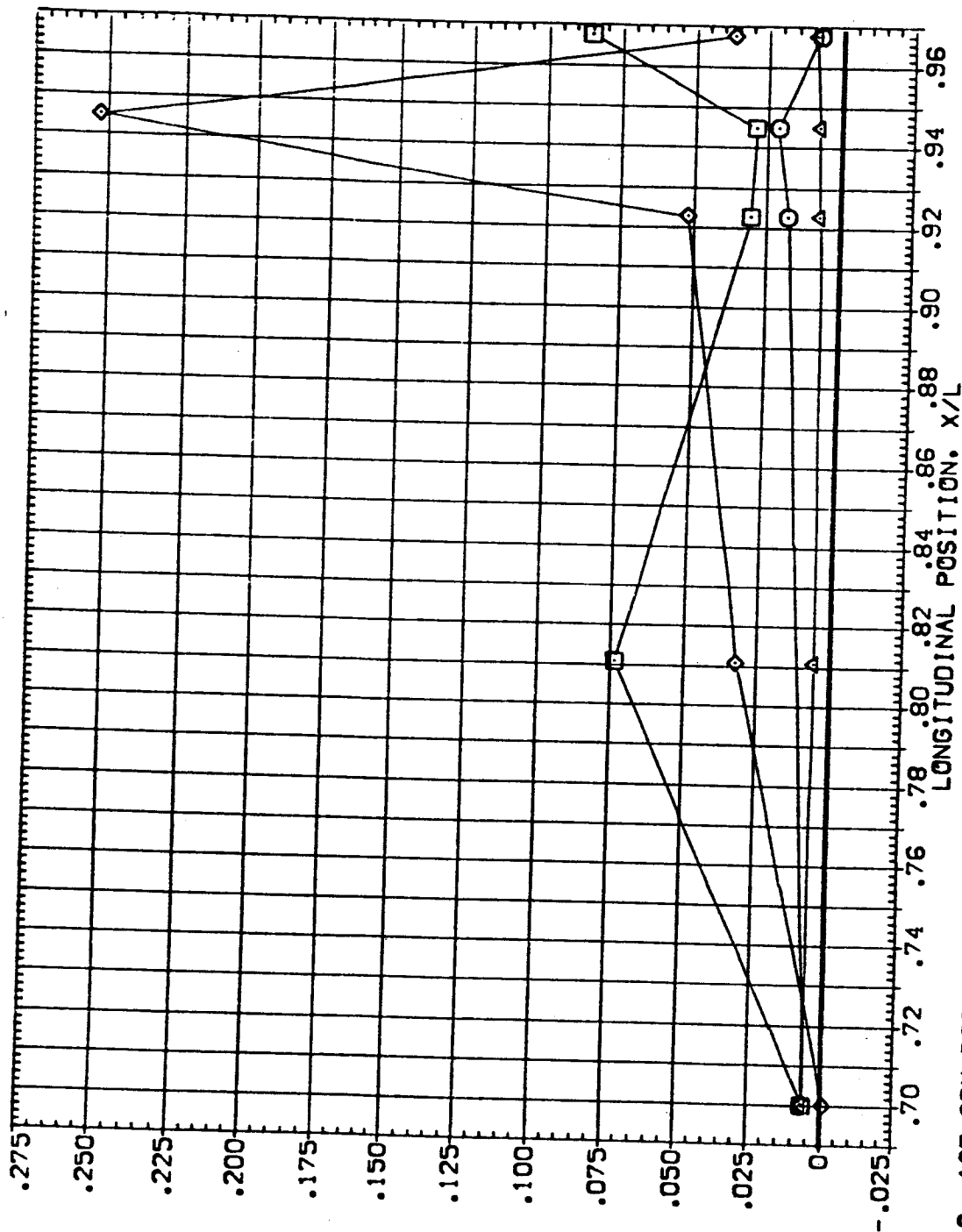


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM, MPS OFF

PHI	BETA	ALPHA
.000	1.000	.000
90.000		
180.000		
270.000		

PARAMETRIC VALUES	
ELV-1B	8.000 ELV-08
RUDDER	.000 MACH
GIMBAL	1.000

1.000
1.400

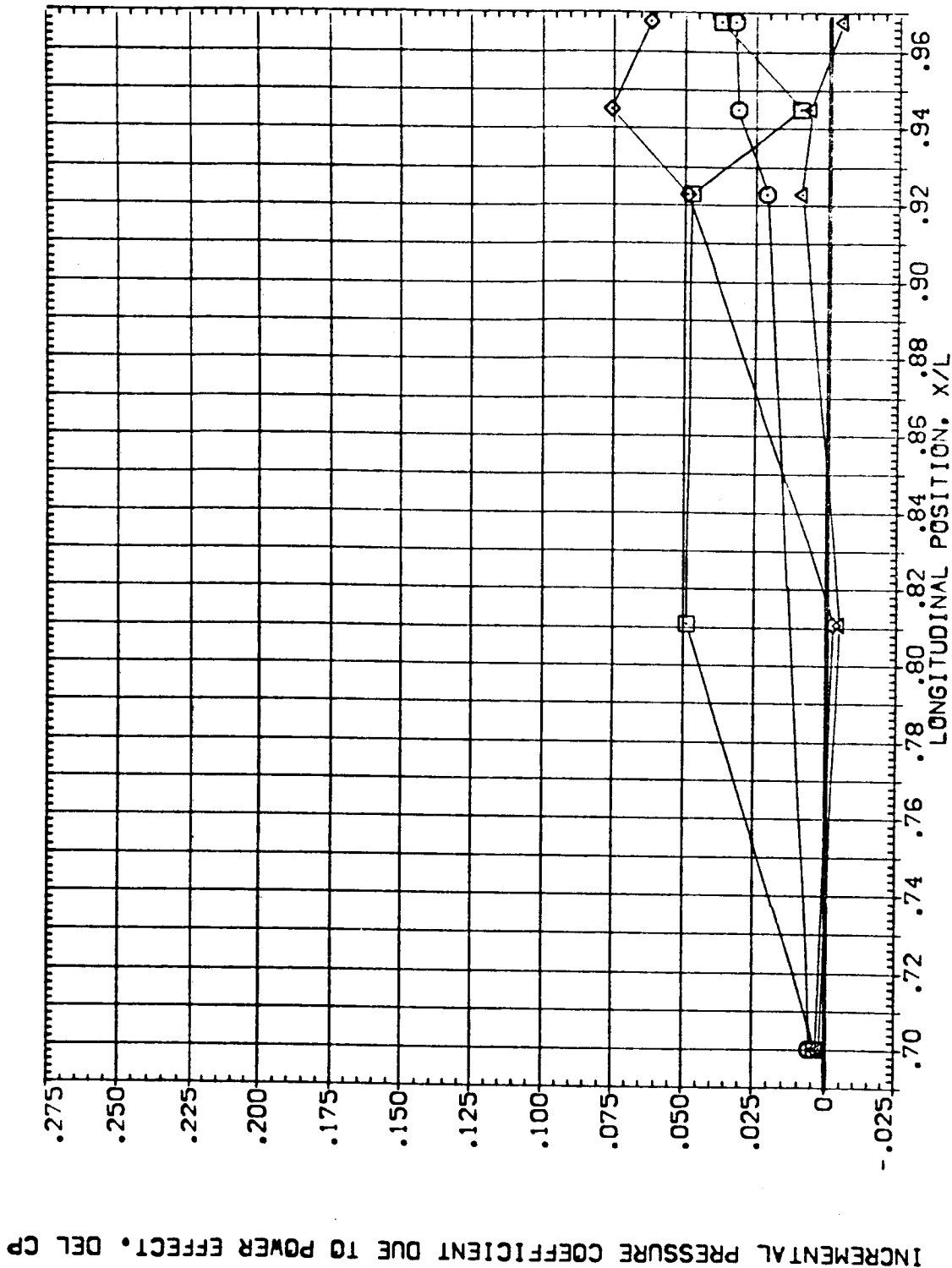


FIG. 107 SRM BOOSTER DELTA CP/PLUME EFFECT NOMINAL SRM. MPS OFF



APPENDIX
TABULATED SOURCE FORCE DATA

Tabulations of plotted data are available
on request from Data Management Services.

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TABULATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

PAGE 1

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF (REU001) (23 OCT 74)

REFERENCE DATA

SREF = 2990.0000 SQ.FT. XMRP = 978.0000 IN. XT ELV-18 = 8.000 ELV-08 = 4.000
LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = .900
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT OIMBAL = 1.000
SCALE = .0200

PARAMETRIC DATA

RUN NO. 52/ 0 RN/L = 4.13 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA MACH SRBPR MPSPR CHEI CHEO CABO CABT CABS
-3.993 .000 .90270 .00000 .00000 .01250 .01750 .01810 .07840 .01340
GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

RUN NO. 53/ 0 RN/L = 4.14 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA MACH SRBPR MPSPR CHEI CHEO CABO CABT CABS
-.816 -4.008 .80440 .00000 .00000 .02220 .02430 .02000 .07740 .01380
-.339 .006 .80040 .00000 .00000 .01020 .01710 .01720 .07280 .01430
-.222 4.025 .80550 .00000 .00000 .01070 .01750 .01690 .07750 .01500
GRADIENT .00014 .00000 .00000 -0.0143 -0.0085 -0.0014 -0.0001 .00017 .00001 .00017

RUN NO. 54/ 0 RN/L = 4.15 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA MACH SRBPR MPSPR CHEI CHEO CABO CABT CABS
3.948 .000 .90340 .00000 .00000 .01430 .01740 .01840 .07110 .01410
GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF (REU002) (23 OCT 74)

REFERENCE DATA

SREF = 2990.0000 SQ.FT. XMRP = 978.0000 IN. XT ELV-18 = 8.000 ELV-08 = 4.000
LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = 1.100
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT OIMBAL = 1.000
SCALE = .0200

PARAMETRIC DATA

RUN NO. 37/ 0 RN/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA MACH SRBPR MPSPR CHEI CHEO CABO CABT CABS
-4.178 .000 1.06450 .00000 .00000 .02970 .02730 .02890 .09350 .02840
GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

RUN NO. 38/ 0 RN/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA MACH SRBPR MPSPR CHEI CHEO CABO CABT CABS
-.284 -4.003 1.06430 .00000 .00000 .03830 .00550 .03300 .09710 .02420
-.252 .009 1.10030 .00000 .00000 .02390 .02440 .02650 .08650 .02560
-.225 4.028 1.06900 .00000 .00000 .02280 .02390 .03320 .05520 .02540
GRADIENT .00021 .00000 .00000 -0.0195 .00228 .00003 -0.0024 -0.0015 .00015 .00015

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF (REU002) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 978.0000 IN. XT ELV-19 = 8.000 ELV-08 = 4.000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = 1.100
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

RUN NO. 39/ 0 RN/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA 4.028 BETA .000 MACH 1.10370 SRBPR .00000 MPSPR .00000 CHEI .02600 CHEO .00430 CABO .03060 CABT .09070 CABS .02540
 GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

PARAMETRIC DATA

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF (REU003) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 978.0000 IN. XT ELV-19 = 8.000 ELV-08 = 4.000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = 1.250
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

RUN NO. 1/ 0 RN/L = 4.43 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA -4.182 BETA .003 MACH 1.23370 SRBPR .00000 MPSPR .00000 CHEI .03970 CHEO .00910 CABO .02440 CABT .07580 CABS .02310
 GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

PARAMETRIC DATA

RUN NO. 2/ 0 RN/L = 4.39 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA -.291 BETA -3.997 MACH 1.23300 SRBPR .00000 MPSPR .00000 CHEI .03810 CHEO -.02550 CABO .02740 CABT .07620 CABS .02260
 -.177 .018 1.23020 .00000 .00000 .03440 -.00700 .02460 .07050 .02350
 -.368 4.031 1.23260 .00000 .00000 .03300 .00350 .02750 .07580 .02310
 GRADIENT -.00005 .00000 .00000 .00000 .00064 .00425 .00001 -.00005 .00005 .00005

RUN NO. 3/ 0 RN/L = 4.37 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA 3.843 BETA .003 MACH 1.23750 SRBPR .00000 MPSPR .00000 CHEI .02890 CHEO -.02610 CABO .02670 CABT .07130 CABS .02430
 GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000



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TABULATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF

(REU004) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = 4.000
RUDDER = .000 MACH = 1.400
GIMBAL = 1.000

RUN NO. 25/ 0 RN/L = 4.27 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.808	.009	1.40430	.00000	.00000	.03420	-.01890	.02280	.06840	.01940
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 25/ 0 RN/L = 4.43 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.204	-4.000	1.40100	.00000	.00000	.00920	-.03120	.02340	.06390	.01820
-.308	.018	1.40090	.00000	.00000	.02050	-.02710	.02190	.05980	.01940
-.267	4.031	1.40170	.00000	.00000	.02710	-.01890	.02310	.06230	.01970
	GRADIENT	.00009	.00000	.00000	.00223	.00179	-.00004	-.00015	.00019

RUN NO. 24/ 0 RN/L = 4.20 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
4.392	.012	1.40000	.00000	.00000	.00680	-.03800	.02240	.05550	.02040
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

(REU005) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = 4.000
RUDDER = .000 MACH = .900
GIMBAL = 1.000

RUN NO. 57/ 0 RN/L = 4.18 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.119	-.008	.90240	.43.20000	.64.00000	.01430	.02020	.03510	.08520	.02030
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 58/ 0 RN/L = 4.17 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.308	-4.000	.90960	.43.20000	.64.00000	.02330	.02880	.03840	.08430	.01810
-.264	.018	.90380	.43.20000	.64.00000	.01180	.01950	.03480	.06440	.02010
-.348	4.028	.89440	.43.20000	.64.00000	.00450	.02010	.03560	.09070	.02330
	GRADIENT	-.00189	-.00000	.00000	-.00234	-.00083	-.00035	.00080	.00090

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ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

(REF005) (23 OCT 74)

REFERENCE DATA

SREF	=	2690.0000	SQ.FT.	XHRP	=	976.0000	IN.	XI
LREF	=	1290.3000	IN.	YHRP	=	.0000	IN.	YI
BREF	=	1290.3000	IN.	ZHRP	=	400.0000	IN.	ZI
SCALE	=	.0200						

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RUN NO.      55/ 0      RN/L =  4.16      GRADIENT INTERVAL =  -5.00/  5.00

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[illegible]

ELV-1B =	0.000	ELV-08 =	4.000
RUDDER =	.000	MACH =	.900
GIMBAL =	1.000		

PARAMETRIC DATA

REFERENCE DATA

XSREF =	2590.000	50.FT.	XRRP =	976.000	IN. XT
LRP =	1290.300	IN.	YRRP =	.000	IN. YT
ZBREF =	1290.300	IN.	ZRRP =	400.000	IN. ZT
SCALE =	.0200				

RUN NO. 43/ 0 RN/L = 4.23 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

ELV-1B =	8.000	ELV-08 =	4.000
RUDDER =	.000	MACH =	1.100
GIMBAL =	1.000		

PARAMETRIC DATA

RUN

ALPHA	BETA	MACH	SRPR	RN/L =
.395	-4.003	1.05370	54.20000	1
.408	.009	1.10190	54.20000	1
.339	4.023	1.09780	54.20000	1
	GRADIENT	.00014	.00000	

RUN NO.	44/ 0	RN/L =	4.23	GRADIENT INTERVAL =	-5.00/	5.00
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[illegible]

RUN NO. 45/ 0 RN/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

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TABULATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

(REU007) (23 OCT 74)

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = 4.000
RUDDER = .000 MACH = 1.250
OIMBAL = 1.000

RUN NO. 10/ 0 RN/L = 4.41 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.131	.003	1.24220	72.00000	158.00000	.03840	.00780	.02980	.06590	.01390
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 11/ 0 RN/L = 4.35 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.300	-4.000	1.24190	72.00000	158.00000	.03870	-.02580	.03140	.06470	.01280
-.411	.012	1.24760	72.00000	158.00000	.03110	-.00780	.02950	.06030	.01390
-.438	4.031	1.23900	72.00000	158.00000	.02790	.00820	.03120	.06640	.01720
	GRADIENT	-.00035	-.00000	-.00000	-.00110	.00421	-.00002	.00021	.00055

RUN NO. 12/ 0 RN/L = 4.39 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.582	.003	1.24350	72.00000	158.00000	.02830	-.02470	.03080	.06170	.01490
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = 4.000
RUDDER = .000 MACH = 1.400
OIMBAL = 1.000

RUN NO. 26/ 0 RN/L = 4.19 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.017	.005	1.40040	106.00000	196.00000	.02990	-.01760	.02200	.04820	.00760
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 27/ 0 RN/L = 4.20 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.488	-4.000	1.39540	106.00000	196.00000	.01090	-.03560	.08320	.04940	.00670
-.438	.016	1.38780	106.00000	196.00000	.01610	-.02610	.02190	.04650	.00810
-.458	4.028	1.38220	106.00000	196.00000	.02330	-.01500	.02270	.04590	.01040
	GRADIENT	-.00040	.00000	-.00000	.00158	.00249	-.00006	.00006	.00046

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ARCI11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

(REU008) (23 OCT 74)

REFERENCE DATA

SREF	=	2890.0000	SQ.FT.	XHRP	=	978.0000	IN.	XT
LREF	=	1290.3000	IN.	YHRP	=	.0000	IN.	YT
BREF	=	1290.3000	IN.	ZHRP	=	400.0000	IN.	ZT
SCALE	=	.0200						

RUN NO.	28/ 0	RN/L =	4.20	GRADIENT INTERVAL =	-5.00/	5.00
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[illegible]

REFERENCE DATA

XSREF =	2690.0000	SQ.FT.	XMRP =	976.0000	IN. YT
LRFP =	1290.3000	IN.	YMRP =	.0000	IN. YT
BRFP =	1290.3000	IN.	ZMRP =	400.0000	IN. ZT
SCALE =	.0200				

RUN NO. 69/ 0 RN/L = 4.20 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SREPR	HPSPR	CHE1	CHEO	CABO	CABT	CABS
4.191	.000	.69470	57.60000	118.90000	.01250	.02020	.00000	.08370	-.01500
	.00000				.00000	.00000	.00000	.00000	.00000
	.00000				.00000	.00000	.00000	.00000	.00000

PLAN

ALPHA	BETA	MACH	SRPR	RN/L =
-438	-4.000	.9090	57.80000	1
-525	-.003	.90260	57.60000	1
-.441	4.025	.80190	57.60000	1
	GRADIENT	.00012	-.00000	

RUN NO.	70/ 0	RN/L =	4.22	GRADIENT INTERVAL =	-5.00/	5.00
---------	-------	--------	------	---------------------	--------	------

ALPHA	BETA	MACH	SRPR	MPSPR	CHE1	CHEO	CABO	CABT	CABS
-4.438	-4.000	.90080	57.60000	118.90000	.02050	.02510	.03920	.08190	.01160
-.525	-.003	.90230	57.60000	118.90000	.03070	.01900	.03650	.07610	.01280
-.941	4.025	.90190	57.60000	118.90000	.00300	.02120	.03940	.08100	.01450
	ABANDONT	.00012	.00000	.00000	-.00218	-.00061	-.00010	-.00011	.00035

RUN

ALPHA	BETA	MACH	SRBRP	RN/L
4.050	.008	.90520	57.60000	1
	GRADIENT	.00000	.00000	

RUN NO.	71/ 0	RN/L =	4.22	GRADIENT INTERVAL =	-5.00/	5.00
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[illegible]

DATE 03 MAY 75

TABULATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC11-0141A19 OTS+STRUT SRB-LOW MPS-NOM

(REU010) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = 4.000
 RUDDER = .000 MACH = 1.100
 OIMBAL = 1.000

RUN NO. 49/ 0 RN/L = 4.23 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRSR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.978	-.008	1.06570	41.00000	128.00000	.03180	.02780	.03990	.09380	.02370
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 50/ 0 RN/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRSR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.387	-4.003	1.02840	41.00000	128.00000	.03770	.00650	.04400	.09380	.02240
-4.429	.009	1.10280	41.00000	128.00000	.02470	.02450	.03250	.08700	.02390
-3.384	4.028	1.09770	41.00000	123.00000	.02130	.02320	.04290	.09220	.02600
	GRADIENT	.00016	.00000	.00000	-.00204	.00217	-.00014	-.00020	.00045

RUN NO. 51/ 0 RN/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRSR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.930	.000	1.10580	41.00000	128.00000	.02710	.00380	.04130	.09080	.02500
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ARC11-0141A19 OTS+STRUT SRB-LOW MPS-NOM

(REU011) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = 4.000
 RUDDER = .000 MACH = 1.250
 OIMBAL = 1.000

RUN NO. 7/ 0 RN/L = 4.26 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRSR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.746	.008	1.23300	46.80000	158.00000	.03840	.01070	.03120	.07180	.01710
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 8/ 0 RN/L = 4.25 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRSR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.444	-4.000	1.23390	46.80000	158.00000	.03750	-.02330	.03290	.06920	.01630
-4.402	.012	1.23580	46.80000	158.00000	.03220	-.00680	.03120	.06520	.01720
-3.324	4.034	1.23470	46.80000	158.00000	.02920	.00870	.03210	.06890	.01940
	GRADIENT	.00011	-.00000	-.00000	-.00103	.00423	-.00010	-.00004	.00039

ARC11-0141A19 OTS+STRUT SRB-LOW MPS-NOM

(REV011) (23 OCT 74)

REFERENCE DATA

SREF	=	2690.0000	SQ.FT.	XRRP	=	976.0000	IN.	XT
LRF	=	1290.3000	IN.	YRRP	=	.0000	IN.	YT
GBRF	=	1290.3000	IN.	ZRRP	=	400.0000	IN.	ZT
SCALE	=	.0200						

RUN NO.	9/ 0	RN/L =	4.25	GRADIENT INTERVAL =	-5.00/	5.00
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[illegible]

ARC11-0141A19 OTS+STRUT SRB-LOW MPS-NON

(REV012) (23 OCT 74)

REFERENCE DATA

SREF	=	2990.0000	SQ.FT.	YMRP	=	978.0000	IN. XT
LREF	=	1290.3000	IN.	YMRP	=	.0000	IN. YT
BREF	=	1290.3000	IN.	ZMRP	=	400.0000	IN. ZT
SCALE	=	.0200					

RUN NO. 35/ 0 RN/L = 4.18 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

RUN NO. 33/ 0 RN/L = 4.18 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRSPR	MPSPR	CME1	CME0	CABO	CABT	CABS
-.396	-4.003	1.40080	65.00000	196.00000	.01070	-.03610	.02490	.05460	.00950
-.378	.006	1.40150	65.00000	196.00000	.01860	-.02670	.02340	.05160	.01160
-.315	4.025	1.39370	65.00000	156.00000	.02480	-.01630	.02440	.05420	.01370
	GRADIENT	-.00028	.00000	.00000	.00178	.00247	-.00006	-.00000	.00052

RUN NO. 34/ 0 RN/L = 4.19 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]



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TABULATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF

(REU013) (23 OCT 74)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 978.0000 IN. XT ELV-1B = 8.000 ELV-08 = 4.000
LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = .900
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
SCALE = .0200

RUN NO. 59/ 0 RN/L = 4.16 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.119	-3.597	.89220	43.20000	.00000	.01180	.01650	.01860	.08050	.02110
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 58/ 0 RN/L = 4.17 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.390	-3.597	.89810	43.20000	.00000	.02240	.02280	.02000	.08140	.01730
-3.378	.018	.90890	43.20000	.00000	.01240	.01690	.01790	.07410	.01550
-3.327	4.028	.89050	43.20000	.00000	.00870	.01540	.01840	.09330	.02290
GRADIENT		-.00093	-.00000	.00000	-.00158	-.00093	-.00020	.00024	.00070

RUN NO. 60/ 0 RN/L = 4.16 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.909	.000	.89780	43.20000	.00000	.01490	.01730	.01730	.07640	.02030
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF

(REU014) (23 OCT 74)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = 978.0000 IN. XT ELV-1B = 8.000 ELV-08 = 4.000
LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = 1.100
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
SCALE = .0200

RUN NO. 48/ 0 RN/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-5.142	-4.003	1.02080	54.20000	.00000	.02590	.02990	.02720	.08920	.02030
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 47/ 0 RN/L = 4.23 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.321	-4.003	1.09500	54.20000	.00000	.03120	.00890	.03070	.08900	.01920
-4.332	.018	1.10000	54.20000	.00000	.01840	.02500	.02630	.08140	.02080
-3.358	4.025	1.09580	54.20000	.00000	.01650	.02420	.03060	.08630	.02290
GRADIENT		.00008	-.00000	.00000	-.00183	.00217	-.00001	-.00021	.00048

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TABULATED SOURCE FORCE DATA - 1A18 (ARC 11-014)

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ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF

(REU014) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

RUN NO. 46/ 0 RN/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.864	.003	1.10450	54.20000	.00000	.02180	.00430	.02840	.08350	.02080
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-18 = 8.000 ELV-08 = 4.000
RUDDER = .000 MACH = 1.100
GIMBAL = 1.000

PARAMETRIC DATA

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF

(REU015) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

RUN NO. 13/ 0 RN/L = 4.35 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.113	.003	1.24600	72.00000	.00000	.03870	.00890	.02030	.06530	.01330
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-18 = 8.000 ELV-08 = 4.000
RUDDER = .000 MACH = 1.250
GIMBAL = 1.000

PARAMETRIC DATA

RUN NO. 14/ 0 RN/L = 4.35 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.390	-4.000	1.24100	72.00000	.00000	.03670	-.02370	.02250	.06490	.01230
-3.363	.012	1.24910	72.00000	.00000	.03100	-.00810	.02000	.05970	.01350
GRADIENT	4.028	1.24190	72.00000	.00000	.02810	.00800	.02210	.06520	.01650
		.00011	-.00000	.00000	-.00107	.00420	-.00005	.00004	.00052

RUN NO. 15/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.834	.012	1.24410	72.00000	.00000	.02810	-.02560	.02180	.06140	.01480
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-18 = 8.000 ELV-08 = 4.000
RUDDER = .000 MACH = 1.250
GIMBAL = 1.000

PARAMETRIC DATA



DATE 03 MAY 75

TABULATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF

(REU016) (23 OCT 74)

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = 4.000
RUDDER = .000 MACH = 1.400
GIMBAL = 1.000

RUN NO. 29/ 0 RN/L = 4.19 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CAB0	CABT	CABS
-4.095	.012	1.39830	108.00000	.00000	.03120	-.01700	.01620	.05110	.00780
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 30/ 0 RN/L = 4.19 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CAB0	CABT	CABS
-.383	-4.000	1.40090	108.00000	.00000	.01040	-.03910	.01650	.05110	.00800
-.291	-.003	1.39290	108.00000	.00000	.01820	-.02580	.01620	.04870	.00810
-.318	4.026	1.39730	108.00000	.00000	.02430	-.01600	.01630	.05120	.01040
	GRADIENT	-.00045	-.00000	.00000	.00173	.00250	-.00002	.00001	.00095

RUN NO. 31/ 0 RN/L = 4.19 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CAB0	CABT	CABS
3.851	-.006	1.39840	108.00000	.00000	.00810	-.03700	.01680	.04640	.00850
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = 4.000
RUDDER = .000 MACH = .900
GIMBAL = 1.000

ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI

(REU017) (23 OCT 74)

RUN NO. 56/ 0 RN/L = 4.20 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CAB0	CABT	CABS
-4.155	.009	.90930	84.80000	118.90000	.01220	.02030	.03650	.07780	.01240
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 57/ 0 RN/L = 4.21 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CAB0	CABT	CABS
-.428	-4.003	.89990	84.80000	118.90000	.01980	.02330	.04010	.06310	.01140
-.447	.008	.90820	84.80000	118.90000	.00900	.01970	.03730	.07780	.01220
-.435	4.028	.91140	84.80000	118.90000	-.00080	.02180	.03680	.07730	.01270
	GRADIENT	.00143	.00000	.00000	-.00254	-.00019	-.00004	-.00072	.00016

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(REU017) (23 OCT 74)

ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BRPF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 68/ 0 RN/L = 4.81 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.930	.000	.89790	84.80000	116.90000	.00810	.01710	.03540	.07890	.01300
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-1B = 8.000 ELV-08 = 4.000
 RUDDER = .000 MACH = .800
 GIMBAL = 1.000

PARAMETRIC DATA

(REU018) (23 OCT 74)

ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BRPF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 40/ 0 RN/L = 4.23 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.098	.000	1.09410	87.80000	168.20000	.01720	.02750	.03340	.07630	.01540
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-1B = 8.000 ELV-08 = 4.000
 RUDDER = .000 MACH = 1.100
 GIMBAL = 1.000

PARAMETRIC DATA

RUN NO. 41/ 0 RN/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.398	-4.003	1.09540	87.80000	168.20000	.02300	.00740	.03750	.07550	.01450
-4.38	.009	1.10200	87.80000	169.20000	.01280	.02460	.03300	.07120	.01550
-5.573	4.028	1.09580	87.80000	168.20000	.00730	.02370	.03620	.07290	.01680
	GRADIENT	.00005	.00000	.00000	-.00195	.00203	-.00016	-.00034	.00029

RUN NO. 42/ 0 RN/L = 4.25 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.915	.000	1.10580	87.80000	168.20000	.01720	.00420	.03490	.07530	.01590
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-1B = 8.000 ELV-08 = 4.000
 RUDDER = .000 MACH = 1.100
 GIMBAL = 1.000

PARAMETRIC DATA



DATE 03 MAY 75

TABLATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI

(REU019) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XPRP = 976.0000 IN. XT
LREF = 1290.3000 IN. YPRP = .0000 IN. YT
SREF = 1290.3000 IN. ZPRP = 400.0000 IN. ZT
SCALE = .0200

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = 4.000
RUDDER = .000 MACH = 1.250
OTMBAL = 1.000

RUN NO. 18/ 0 RN/L = 4.35 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.185	-0.009	1.24500	117.00000	204.80000	.03080	.00700	.02440	.05380	.00830
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 19/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.459	-4.000	1.24280	117.00000	204.80000	.03300	-.02490	.02850	.05310	.00780
-4.38	.012	1.24500	117.00000	204.80000	.02330	-.00750	.02440	.04970	.00880
-5.549	4.028	1.24440	117.00000	204.80000	.01840	.00800	.02570	.05300	.01140
	GRADIENT	.00020	-.00000	-.00000	-.00189	.00410	-.00010	-.00001	.00045

RUN NO. 20/ 0 RN/L = 4.35 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.518	.012	1.24080	117.00000	204.80000	.02180	-.02510	.02580	.05180	.00980
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI

(REU020) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XPRP = 976.0000 IN. XT
LREF = 1290.3000 IN. YPRP = .0000 IN. YT
SREF = 1290.3000 IN. ZPRP = 400.0000 IN. ZT
SCALE = .0200

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = 4.000
RUDDER = .000 MACH = 1.400
OTMBAL = 1.000

RUN NO. 22/ 0 RN/L = 4.37 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.187	-0.003	1.38780	108.00000	198.00000	.02880	-.01740	.01980	.03980	.00340
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 23/ 0 RN/L = 4.33 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.489	-4.003	1.38970	108.00000	198.00000	.00870	-.03580	.01870	.03980	.00200
-4.32	.009	1.40890	108.00000	198.00000	.01590	-.02580	.01880	.03800	.00340
-4.486	4.025	1.39830	108.00000	198.00000	.01800	-.01800	.01920	.03930	.00560
	GRADIENT	-.00017	.00000	.00000	.00128	.00244	-.00006	-.00006	.00047

(REU020) (23 OCT 74)

ARC11-0141A19 OTS+STRUT SRB-HI MPS-HI

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 64/ 0 RN/L = 4.30 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.657	.009	1.40540	108.00000	198.00000	.00290	-.03680	.01910	.03510	.00390
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-1B = 8.000 ELV-0B = 4.000
 RUDDER = .000 MACH = 1.400
 GIMBAL = 1.000

PARAMETRIC DATA

(REU021) (23 OCT 74)

ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 72/ 0 RN/L = 4.32 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.200	.003	1.40450	.00000	.00000	.03510	-.00270	.02240	.05740	.01890
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-1B = 8.000 ELV-0B = .000
 RUDDER = .000 MACH = 1.400
 GIMBAL = 1.000

PARAMETRIC DATA

RUN NO. 73/ 0 RN/L = 4.30 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.180	-4.000	1.40260	.00000	.00000	.01130	-.01850	.02320	.05330	.01810
-.291	.012	1.40650	.00000	.00000	.02090	-.01300	.02170	.05950	.01920
-.306	4.028	1.39990	.00000	.00000	.02700	-.00180	.02310	.05250	.01970
	GRADIENT	-.00034	.00000	.00000	.00196	.00208	-.00001	-.00010	.00020

ELV-1B = 8.000 ELV-0B = .000
 RUDDER = .000 MACH = 1.400
 GIMBAL = 1.000

PARAMETRIC DATA

RUN NO. 74/ 0 RN/L = 4.27 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.969	.006	1.40130	.00000	.00000	.00760	-.02400	.02260	.05580	.02030
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-1B = 8.000 ELV-0B = .000
 RUDDER = .000 MACH = 1.400
 GIMBAL = 1.000

PARAMETRIC DATA



DATE 03 MAY 75

TABLATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC11-0141A19 OTS+STRUT SRB-NOM MP8-NOM

(REU022) (23 OCT 74)

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = .000
RUDDER = .000 MACH = 1.400
GIMBAL = 1.000

RUN NO. 78/ 0 RN/L = 4.25 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHEO	CABO	CABT	CABS
-4.187	.008	1.39980	108.00000	198.00000	.02980	-.00280	.02170	.04820	.00730
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 77/ 0 RN/L = 4.23 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHEO	CABO	CABT	CABS
-.348	-3.997	1.40130	108.00000	198.00000	.01040	-.01680	.02280	.04880	.00840
-.386	-.012	1.40670	108.00000	198.00000	.01880	-.01290	.02110	.04500	.00780
-.522	4.031	1.39330	108.00000	198.00000	.02870	-.00150	.02120	.04920	.00980
	GRADIENT	-.00037	-.00000	-.00000	.00193	.00213	-.00009	-.00007	.00042

RUN NO. 78/ 0 RN/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHEO	CABO	CABT	CABS
3.942	.012	1.40100	108.00000	198.00000	.00520	-.02420	.02180	.04430	.00850
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ARC11-0141A19 OTS+STRUT SRB-OFF MP8-OFF

(REU023) (23 OCT 74)

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

PARAMETRIC DATA

ELV-18 = .000 ELV-08 = .000
RUDDER = .000 MACH = .900
GIMBAL = 1.000

RUN NO. 100/ 0 RN/L = 4.21 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHEO	CABO	CABT	CABS
-4.047	.000	.90700	.00000	.00000	.03550	.02900	.01800	.08030	.01580
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 101/ 0 RN/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHEO	CABO	CABT	CABS
-.278	-4.003	.90680	.00000	.00000	.07180	.03170	.02140	.08300	.01430
-.237	.009	.91840	.00000	.00000	.02390	.02940	.01830	.07110	.01310
-.195	4.028	.91810	.00000	.00000	.01020	.02680	.01880	.07880	.01440
	GRADIENT	.00118	.00000	.00000	-.00784	-.00084	-.00020	-.00076	.00001

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DATE 03 MAY 75

TABULATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC111-0141A19 OTS+STRUT SRB-OFF MPS-OFF

(REU023) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

RUN NO. 102/ 0 RN/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.855	.003	.91180	.00000	.00000	.03200	.03030	.01750	.07410	.01440
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-1B =	.000	ELV-08 =	.000
RUDDER =	.000	MACH =	.900
GIMBAL =	1.000		

PARAMETRIC DATA

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

RUN NO. 84/ 0 RN/L = 4.27 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.993	.009	1.09270	.00000	.00000	.11230	.05780	.02860	.09710	.02600
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-1B =	.000	ELV-08 =	.000
RUDDER =	.000	MACH =	1.100
GIMBAL =	1.000		

PARAMETRIC DATA

RUN NO. 85/ 0 RN/L = 4.26 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.279	-4.003	1.09250	.00000	.00000	.13980	.03040	.03180	.10090	.02410
-.246	.009	1.05840	.00000	.00000	.10320	.05370	.02830	.09140	.02540
-.273	4.025	1.09440	.00000	.00000	.10230	.05240	.03250	.09880	.02500
GRADIENT		.00024	.00000	.00000	-.00455	.00274	.00009	-.00026	.00011

CABT	.10090	CABS	.02410
CABT	.09710	CABS	.02600
CABT	.00000	CABS	.00000

RUN NO. 96/ 0 RN/L = 4.27 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.804	-.003	1.10180	.00000	.00000	.10710	.02980	.02980	.09380	.02520
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

CABT	.09380	CABS	.02520
CABT	.00000	CABS	.00000
CABT	.00000	CABS	.00000



DATE 03 MAY 75

TABULATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF (REV025) (23 OCT 74)

REFERENCE DATA

SREF = 2990.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

RUN NO. 88/ 0 RN/L = 4.31 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CASO	CABT	CABS
-3.975	.003	1.24580	.00000	.00000	.12900	.02930	.02420	.07880	.02270
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 89/ 0 RN/L = 4.31 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CASO	CABT	CABS
-.295	-4.000	1.24280	.00000	.00000	.12950	-.00590	.02620	.03080	.02240
-.285	.012	1.25380	.00000	.00000	.11890	.01010	.02360	.07230	.02290
-.189	4.031	1.23980	.00000	.00000	.11370	.03070	.02840	.07870	.02340
	GRADIENT	-.00041	.00000	.00000	-.00147	.00488	.00003	-.00011	.00012

RUN NO. 90/ 0 RN/L = 4.32 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CASO	CABT	CABS
4.005	.003	1.24680	.00000	.00000	.11180	-.00770	.02590	.07500	.02410
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA

ELV-18 = .000 ELV-08 = .000
RUDDER = .000 MACH = 1.250
GIMBAL = 1.000

REFERENCE DATA

SREF = 2990.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

RUN NO. 82/ 0 RN/L = 4.29 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CASO	CABT	CABS
-3.909	.009	1.40370	.00000	.00000	.11440	-.00030	.02120	.06870	.01880
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 83/ 0 RN/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CASO	CABT	CABS
-.243	-4.000	1.40300	.00000	.00000	.06980	-.01590	.02220	.06920	.01810
-.237	.012	1.40300	.00000	.00000	.08410	-.00900	.02080	.06190	.01940
-.234	4.031	1.36800	.00000	.00000	.10110	.00110	.02230	.05910	.02000
	GRADIENT	-.00087	.00000	.00000	.00193	.00212	.00001	-.00001	.00024

PARAMETRIC DATA

ELV-18 = .000 ELV-08 = .000
RUDDER = .000 MACH = 1.400
GIMBAL = 1.000

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REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 84/ 0 RN/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
4.047	.006	1.39580	.00000	.00000	.07800	-.01890	.02150	.06010	.02040
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-18 =
 RUDDER =
 GIMBAL =

.000 ELV-08 = .000
 .000 MACH = 1.400
 1.000

PARAMETRIC DATA

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 87/ 0 RN/L = 4.16 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.125	.000	.90400	43.20000	84.00000	.03290	.03490	.03690	.08750	.01980
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-18 =
 RUDDER =
 GIMBAL =

.000 ELV-08 = .000
 .000 MACH = .900
 1.000

PARAMETRIC DATA

RUN NO. 98/ 0 RN/L = 4.17 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.395	-4.003	.90090	43.20000	84.00000	.07450	.03350	.03370	.08890	.01700
-4.408	.009	.90910	43.20000	84.00000	.02440	.03590	.03390	.02860	.01900
-4.336	4.025	.90720	43.20000	84.00000	.01170	.03540	.03740	.08330	.02200
GRADIENT		.00078	-.00000	.00000	-.00782	.00024	-.00016	-.00004	.00062

ELV-18 =
 RUDDER =
 GIMBAL =

.000 ELV-08 = .000
 .000 MACH = .900
 1.000

PARAMETRIC DATA

RUN NO. 99/ 0 RN/L = 4.17 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.792	-.003	.90710	43.20000	84.00000	.02900	.03140	.03210	.08170	.01960
GRADIENT		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-18 =
 RUDDER =
 GIMBAL =

.000 ELV-08 = .000
 .000 MACH = .900
 1.000

PARAMETRIC DATA



DATE 03 MAY 75

TABULATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

(REU028) (23 OCT 74)

REFERENCE DATA

SREF = 2990.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

ELV-18 = .000 ELV-08 = .000
RUDDER = .000 MACH = 1.100
GIMBAL = 1.000

PARAMETRIC DATA

RUN NO. 91/ 0 RN/L = 4.28 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA -4.191
BETA .003
GRADIENT .00000
MACH 1.09010
SRBPR 54.20000
MPSPR 128.00000
CHEI .10580
CHEO .05780
CABO .03740
CABT .09200
CABS .02080
CABS .00000

RUN NO. 92/ 0 RN/L = 4.27 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA -4.485
BETA -4.003
GRADIENT .012
MACH 1.09410
SRBPR 54.20000
MPSPR 128.00000
CHEI .12880
CHEO .03190
CABO .04070
CABT .09110
CABS .01990
CABS .03680
CABS .02090
CABS .08980
CABS .02290
CABS -.00019
CABS -.00037

RUN NO. 93/ 0 RN/L = 4.28 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA 3.819
BETA .009
GRADIENT .00000
MACH 1.10490
SRBPR 54.20000
MPSPR 128.00000
CHEI .10230
CHEO .03080
CABO .03970
CABT .08580
CABS .02140
CABS .00000

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

(REU029) (23 OCT 74)

REFERENCE DATA

SREF = 2990.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

ELV-18 = .000 ELV-08 = .000
RUDDER = .000 MACH = 1.250
GIMBAL = 1.000

PARAMETRIC DATA

RUN NO. 95/ 0 RN/L = 4.32 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA -4.080
BETA .006
GRADIENT .00000
MACH 1.24670
SRBPR 72.00000
MPSPR 158.00000
CHEI .11640
CHEO .02940
CABO .02770
CABT .06490
CABS .01330
CABS .00000

RUN NO. 96/ 0 RN/L = 4.32 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA -4.375
BETA -3.987
GRADIENT .012
MACH 1.25480
SRBPR 72.00000
MPSPR 158.00000
CHEI .12220
CHEO -.00830
CABO .02880
CABT .06530
CABS .01280
CABS .08010
CABS .01330
CABS .08990
CABS .01850
CABS .00003
CABS -.00046

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

(REU029) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XRRP = 976.0000 IN. XT
LREF = 1290.3000 IN. YRRP = .0000 IN. YT
BREF = 1290.3000 IN. ZRRP = 400.0000 IN. ZT
SCALE = .0200

RUN NO. 87/ 0 RN/L = 4.33 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CABO	CABT	CABS
3.643	.003	1.24740	72.00000	196.00000	.10130	-.00710	.02950	.06180	.01440
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-1B = .000 ELV-0B = .000
RUDDER = .000 MACH = 1.250
GIMBAL = 1.000

PARAMETRIC DATA

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

(REU030) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XRRP = 976.0000 IN. XT
LREF = 1290.3000 IN. YRRP = .0000 IN. YT
BREF = 1290.3000 IN. ZRRP = 400.0000 IN. ZT
SCALE = .0200

RUN NO. 78/ 0 RN/L = 4.31 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CABO	CABT	CABS
-4.224	.006	1.39920	106.00000	196.00000	.10600	.00080	.02090	.04650	.00750
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-1B = .000 ELV-0B = .000
RUDDER = .000 MACH = 1.400
GIMBAL = 1.000

PARAMETRIC DATA

RUN NO. 80/ 0 RN/L = 4.28 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CABO	CABT	CABS
-4.444	-3.997	1.40220	106.00000	196.00000	.08730	-.01540	.02230	.05070	.00700
-4.405	.016	1.40590	106.00000	196.00000	.08540	-.00870	.02080	.04650	.00900
-3.360	4.031	1.40200	106.00000	155.00000	.09240	.00140	.02110	.04900	.01000
	GRADIENT	-.00003	-.00000	-.00000	.00064	.00209	-.00015	-.00021	.00037

ELV-1B = .000 ELV-0B = .000
RUDDER = .000 MACH = 1.400
GIMBAL = 1.000

PARAMETRIC DATA

RUN NO. 81/ 0 RN/L = 4.27 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CABO	CABT	CABS
3.819	.009	1.40140	106.00000	196.00000	.07200	-.01350	.02150	.04490	.00870
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-1B = .000 ELV-0B = .000
RUDDER = .000 MACH = 1.400
GIMBAL = 1.000

PARAMETRIC DATA



DATE 03 MAY 75

TABULATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF

(REU031) (23 OCT 74)

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

RUN NO. 106/ 0 RN/L = 4.20 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.020	.008	.89850	.00000	.00000	.04240	.03040	.01800	.07820	.01510
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 107/ 0 RN/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.268	-4.003	.90520	.00000	.00000	.07130	.03150	.02100	.08070	.01380
-.279	.009	.91350	.00000	.00000	.02890	.02850	.01730	.07030	.01320
-.284	4.031	.90900	.00000	.00000	.01000	.02190	.01920	.07890	.01500
	GRADIENT	.00047	.00000	.00000	-.00783	-.00120	-.00022	-.00022	.00015

RUN NO. 108/ 0 RN/L = 4.23 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.978	.000	.90870	.00000	.00000	.02310	.03000	.01850	.07220	.01430
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

RUN NO. 124/ 0 RN/L = 4.38 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.908	.000	1.05500	.00000	.00000	.10780	.05790	.02790	.02390	.02570
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 125/ 0 RN/L = 4.42 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.255	-4.000	1.10950	.00000	.00000	.12980	.02740	.02910	.09170	.02330
-.213	.009	1.11790	.00000	.00000	.10280	.05200	.02530	.02280	.02370
-.219	4.028	1.11020	.00000	.00000	.00000	.05350	.03050	.00000	.02370
	GRADIENT	.00007	.00000	.00000	-.00411	.00314	.00017	-.00014	.00005

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ARC11-0141A19 OTS+STRUT SR8-OFF MPS-OFF

(REU032) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 128/ 0 RN/L = 4.43 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.981	.000	1.12440	.00000	.00000	.10670	.02520	.02710	.08510	.02370
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA

ELV-1B = .000 ELV-08 = .000
 RUDDER = .000 MACH = 1.100
 GIMBAL = 2.000

ARC11-0141A19 OTS+STRUT SR8-OFF MPS-OFF

(REU033) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 112/ 0 RN/L = 4.38 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.044	.003	1.25250	.00000	.00000	.12780	.02800	.02320	.07720	.02240
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA

ELV-1B = .000 ELV-08 = .000
 RUDDER = .000 MACH = 1.250
 GIMBAL = 2.000

RUN NO. 113/ 0 RN/L = 4.37 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.198	-4.000	1.25040	.00000	.00000	.12540	-.00720	.02540	.07910	.02220
-.162	.009	1.25710	.00000	.00000	.11840	.00980	.02320	.07210	.02300
-.210	4.031	1.24580	.00000	.00000	.11440	.02580	.02630	.07880	.02310
	GRADIENT	-.00057	.00000	.00000	-.00137	.00461	.00015	-.00004	.00011

PARAMETRIC DATA

ELV-1B = .000 ELV-08 = .000
 RUDDER = .000 MACH = 1.250
 GIMBAL = 2.000

RUN NO. 114/ 0 RN/L = 4.35 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.846	.003	1.25080	.00000	.00000	.11140	-.00780	.02490	.07340	.02390
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA

ELV-1B = .000 ELV-08 = .000
 RUDDER = .000 MACH = 1.250
 GIMBAL = 2.000



DATE 03 MAY 75

TABULATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC11-0141A19 OTS+STRUT SRB-OFF MPS-OFF

(REU034) (23 OCT 74)

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
SREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

RUN NO. 119/ 0 RN/L = 4.23 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPBPR	CHEI	CHEO	CABO	CABT	CABS	ELV-18 =	ELV-08 =
-3.981	.000	1.40380	.00000	.00000	.11560	.00080	.02090	.06950	.01870	.000	.000
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.000	1.400

RUN NO. 119/ 0 RN/L = 4.23 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPBPR	CHEI	CHEO	CABO	CABT	CABS	ELV-18 =	ELV-08 =
-.231	-4.000	1.40180	.00000	.00000	.09900	-.01920	.02240	.08850	.01820	.000	.000
-.231	.008	1.40540	.00000	.00000	.09400	-.00950	.02050	.08150	.01930	.000	.000
-.210	4.028	1.39550	.00000	.00000	.10130	.00080	.02280	.08680	.02000	.000	.000
	GRADIENT	-.00079	.00000	.00000	.00153	.00212	.00005	.00001	.00022	.000	.000

RUN NO. 120/ 0 RN/L = 4.23 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPBPR	CHEI	CHEO	CABO	CABT	CABS	ELV-18 =	ELV-08 =
3.930	.003	1.39550	.00000	.00000	.07830	-.01690	.02150	.08000	.02050	.000	.000
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.000	.900

ARC11-0141A19 OTS+STRUT SRB-NON MPS-NON

(REU035) (23 OCT 74)

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
SREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

RUN NO. 103/ 0 RN/L = 4.18 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPBPR	CHEI	CHEO	CABO	CABT	CABS	ELV-18 =	ELV-08 =
-4.308	.009	.90820	43.20000	84.00000	.03830	.03950	.03410	.09590	.02060	.000	.000
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.000	.900

RUN NO. 104/ 0 RN/L = 4.18 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPBPR	CHEI	CHEO	CABO	CABT	CABS	ELV-18 =	ELV-08 =
-.390	-4.000	.90330	43.20000	84.00000	.08030	.03680	.03750	.09590	.01820	.000	.000
-.384	.012	.91040	43.20000	84.00000	.02950	.03700	.03350	.08950	.01840	.000	.000
-.345	4.025	.90510	43.20000	84.00000	.01530	.04070	.03620	.08350	.02290	.000	.000
	GRADIENT	.00022	-.00000	-.00000	-.00810	.00049	-.00018	.00007	.00059	.000	.000

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(REU035) (23 OCT 74)

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XHRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YHRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZHRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 105/ 0 RN/L = 4.20 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CABO	CABT	CABS
3.903	.006	.90230	43.20000	84.00000	.02870	.03130	.03050	.08950	.02040
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA

ELV-18 = .000 ELV-08 = .000
 RUDDER = .000 MACH = .900
 GIMBAL = 2.000

(REU036) (23 OCT 74)

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XHRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YHRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZHRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 121/ 0 RN/L = 4.33 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CABO	CABT	CABS
-4.008	.003	1.09040	54.20000	128.00000	.11220	.05780	.03730	.09550	.02110
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA

ELV-18 = .000 ELV-08 = .000
 RUDDER = .000 MACH = 1.100
 GIMBAL = 2.000

RUN NO. 122/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CABO	CABT	CABS
-3.342	-4.000	1.09380	54.20000	128.00000	.13430	.03050	.04030	.09450	.02010
-3.318	.012	1.11310	54.20000	128.00000	.10200	.05320	.03480	.08500	.02040
-4.417	4.031	1.10120	54.20000	128.00000	.05760	.05240	.03970	.09110	.02270
	GRADIENT	.00055	.00000	.00000	-.00457	.00273	-.00007	-.00042	.00032

PARAMETRIC DATA

ELV-18 = .000 ELV-08 = .000
 RUDDER = .000 MACH = 1.100
 GIMBAL = 2.000

RUN NO. 123/ 0 RN/L = 4.35 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHE1	CHE0	CABO	CABT	CABS
3.717	.000	1.10270	54.20000	128.00000	.10710	.03150	.03910	.09250	.02200
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA

ELV-18 = .000 ELV-08 = .000
 RUDDER = .000 MACH = 1.100
 GIMBAL = 2.000



DATE 03 MAY 75

TABULATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

(REU037) (23 OCT 74)

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 976.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

ELV-18 = .000 ELV-08 = .000
RUDDER = .000 MACH = 1.250
01MBAL = 2.000

PARAMETRIC DATA

RUN NO. 109/ 0 RN/L = 4.41 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA
-4.149 .006
GRADIENT .00000 158.00000
MACH .00000 72.00000
SRBPR .00000 .00000
MPSPR .00000 .00000
CHEI .00000 .00000
CHEO .00000 .00000
CABO .00000 .00000
CABT .00000 .00000
CABS .00000 .00000

RUN NO. 110/ 0 RN/L = 4.39 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA
-4.414 -4.003
GRADIENT .009 1.24590 158.00000
MACH .009 1.25590 72.00000
SRBPR .009 1.24700 72.00000
MPSPR .009 1.25590 158.00000
CHEI .009 1.24590 .00000
CHEO .009 1.25590 .00000
CABO .009 1.24700 .00000
CABT .009 1.25590 .00000
CABS .009 1.24700 .00000

RUN NO. 111/ 0 RN/L = 4.39 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA
3.884 .003
GRADIENT .00000 158.00000
MACH .00000 72.00000
SRBPR .00000 .00000
MPSPR .00000 .00000
CHEI .00000 .00000
CHEO .00000 .00000
CABO .00000 .00000
CABT .00000 .00000
CABS .00000 .00000

ARC11-0141A19 OTS+STRUT SRB-NOM MPS-NOM

(REU038) (23 OCT 74)

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 976.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

ELV-18 = .000 ELV-08 = .000
RUDDER = .000 MACH = 1.400
01MBAL = 2.000

PARAMETRIC DATA

RUN NO. 115/ 0 RN/L = 4.27 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA
-4.155 .003
GRADIENT .00000 158.00000
MACH .00000 72.00000
SRBPR .00000 .00000
MPSPR .00000 .00000
CHEI .00000 .00000
CHEO .00000 .00000
CABO .00000 .00000
CABT .00000 .00000
CABS .00000 .00000

RUN NO. 116/ 0 RN/L = 4.26 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA BETA
-4.367 -4.000
GRADIENT .009 1.40080 158.00000
MACH .009 1.40480 72.00000
SRBPR .009 1.40080 72.00000
MPSPR .009 1.40480 158.00000
CHEI .009 1.40080 .00000
CHEO .009 1.40480 .00000
CABO .009 1.40080 .00000
CABT .009 1.40480 .00000
CABS .009 1.40080 .00000

REFERENCE DATA

SREF	=	2890.0000	SQ.FT.	YMRP	=	978.0000	IN. YX
LREF	=	1290.3000	IN.	YMRP	=	.0000	IN. YZ
BREF	=	1290.3000	IN.	ZMRP	=	400.0000	IN. ZY
SCALE	=	.0200					

RUN NO.	117/ 0	RN/L =	4.25	GRADIENT INTERVAL =	-5.00/	5.00
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ALPHA	BETA	MACH	SRSR	MPSR	CHEI	CHEO	CABO	CABT	CABS
3.939	.000	1.40320	108.00000	198.00000	.07330	-.01920	.02230	.04790	.00830
		.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000
	GRADIENT								

PARAMETRIC DATA

ELV-1B =	.000	ELV-08 =	.000
RUDDER =	.000	MACH =	1.400
WINGAL =	2.000		

(REV039) (23 OCT 74)

REFERENCE DATA

SREF	=	2990.0000	SQ.FT.	XMRP	=	978.0000	IN. YX
LRFP	=	1290.3000	IN.	YMRP	=	.0000	IN. YZ
BRFP	=	1290.3000	IN.	ZMRP	=	400.0000	IN. ZT
SCALE	=		.0200				

RUN NO.	181/ 0	RN/L =	4.17	GRADIENT INTERVAL =	-5.00/ 5.00
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[illegible]

PARAMETRIC DATA

ELV-1B =	.000	ELV-08 =	.000
RUDDER =	.000	MACH	= .900
GIMBAL =	1.000		

BMN NO	162/ 0	RN/L =	4.17	GRADIENT INTERVAL =	-5.00/	5.00
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	BETA	MACH	SRRPR	WSPR	CHEI	CHEO	CABO	CABT	CABS
ALPHA	.000	.90390	.00000	.00000	.04200	.03000	-.01810	.07350	.01400
.4, .032							.00000	.00000	.00000

	5.00	
CABO		CABT
		CABS

A	MACH	SREPR	HPSPR	CHEI	CHEO	CABO
1	1	1	1	1	1	1
2	1	1	1	1	1	1
3	1	1	1	1	1	1
4	1	1	1	1	1	1
5	1	1	1	1	1	1
6	1	1	1	1	1	1
7	1	1	1	1	1	1
8	1	1	1	1	1	1
9	1	1	1	1	1	1
10	1	1	1	1	1	1
11	1	1	1	1	1	1
12	1	1	1	1	1	1
13	1	1	1	1	1	1
14	1	1	1	1	1	1
15	1	1	1	1	1	1
16	1	1	1	1	1	1
17	1	1	1	1	1	1
18	1	1	1	1	1	1
19	1	1	1	1	1	1
20	1	1	1	1	1	1
21	1	1	1	1	1	1
22	1	1	1	1	1	1
23	1	1	1	1	1	1
24	1	1	1	1	1	1
25	1	1	1	1	1	1
26	1	1	1	1	1	1
27	1	1	1	1	1	1
28	1	1	1	1	1	1
29	1	1	1	1	1	1
30	1	1	1	1	1	1
31	1	1	1	1	1	1
32	1	1	1	1	1	1
33	1	1	1	1	1	1
34	1	1	1	1	1	1
35	1	1	1	1	1	1
36	1	1	1	1	1	1
37	1	1	1	1	1	1
38	1	1	1	1	1	1
39	1	1	1	1	1	1
40	1	1	1	1	1	1
41	1	1	1	1	1	1
42	1	1	1	1	1	1
43	1	1	1	1	1	1
44	1	1	1	1	1	1
45	1	1	1	1	1	1
46	1	1	1	1	1	1
47	1	1	1	1	1	1
48	1	1	1	1	1	1
49	1	1	1	1	1	1
50	1	1	1	1	1	1
51	1	1	1	1	1	1
52	1	1	1	1	1	1
53	1	1	1	1	1	1
54	1	1	1	1	1	1
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56	1	1	1	1	1	1
57	1	1	1	1	1	1
58	1	1	1	1	1	1
59	1	1	1	1	1	1
60	1	1	1	1	1	1
61	1	1	1	1	1	1
62	1	1	1	1	1	1
63	1	1	1	1	1	1
64	1	1	1	1	1	1
65	1	1	1	1	1	1
66	1	1	1	1	1	1
67	1	1	1	1	1	1
68	1	1	1	1	1	1
69	1	1	1	1	1	1
70	1	1	1	1	1	1
71	1	1	1	1		

ALPHA	BETA	MACH	SRPR	WSPR	CHE1	CHEO	CABO	CABT	CABS
-.228	-4.003	.50440	.00000	.00000	.06770	.02830	.01810	.07830	.01360
-.249	.012	.50250	.00000	.00000	.03910	.03930	.01670	.07060	.01350
-.281	4.028	.63910	.00000	.00000	.01050	.01540	.01810	.07810	.01590
CONSTANT	CONSTANT	CONSTANT	.00000	.00000	-.00712	-.00161	-.00000	-.00002	.00027

BM NO	184/ 0	BN/1	4.18	GRADIENT INTERVAL	-5.00/	5.00
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	BETA	MACH	SRRGR	HPSRPR	CHEI	CHEO	CABO	CABT	CABS
ALPHA	.003	.90520	.00000	.00000	.04280	.02830	.01680	.07050	.01410
4 .032					.00000	.00000	.00000	.00000	.00000

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DATE 03 MAY 75

TABULATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC11-0141A19 OTS

SRB-OFF MPS-OFF

(REU039) (23 OCT 74)

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

RUN NO. 185/ 0 RN/L = 4.18 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS	ELV-1B =	ELV-08 =
7.920	.003	.90010	.00000	.00000	.04470	.02400	.01730	.07510	.01840	.000	.000
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.000	.000
										MACH =	MACH =
										1.000	1.000

PARAMETRIC DATA

ELV-1B = .000
RUDDER = .000
GIMBAL = 1.000

ARC11-0141A19 OTS

SRB-OFF MPS-OFF

(REU040) (23 OCT 74)

REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

RUN NO. 181/ 0 RN/L = 4.41 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS	ELV-1B =	ELV-08 =
-7.992	.003	1.10400	.00000	.00000	.11710	.05440	.02840	.08770	.02430	.000	.000
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.000	.000
										MACH =	MACH =
										1.000	1.100

PARAMETRIC DATA

ELV-1B = .000
RUDDER = .000
GIMBAL = 1.000

RUN NO. 182/ 0 RN/L = 4.40 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS	ELV-1B =	ELV-08 =
-4.080	.003	1.10270	.00000	.00000	.10830	.05750	.02860	.09030	.02510	.000	.000
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.000	.000
										MACH =	MACH =
										1.000	1.100

RUN NO. 183/ 0 RN/L = 4.38 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS	ELV-1B =	ELV-08 =
-1.225	-4.000	1.09870	.00000	.00000	.12200	.03310	.02990	.08540	.02380	.000	.000
-1.159	.012	1.10670	.00000	.00000	.10080	.05380	.02870	.08720	.02460	.000	.000
-1.312	4.028	1.10900	.00000	.00000	.07730	.05650	.02810	.09130	.02420	.000	.000
	GRADIENT	.00128	.00000	.00000	-.00557	.00291	-.00022	-.00081	.00005	.000	.000
										MACH =	MACH =
										1.000	1.100

RUN NO. 184/ 0 RN/L = 4.38 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS	ELV-1B =	ELV-08 =
3.685	.000	1.10310	.00000	.00000	.10710	.03180	.03000	.08330	.02900	.000	.000
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.000	.000
										MACH =	MACH =
										1.000	1.100

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(REU040) (23 OCT 74)

ARC11-0141A19 OTS

SRB-OFF MPS-OFF

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT ELV-18 = .000 ELV-08 = .000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = 1.100
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

RUN NO. 135/ 0 RN/L = 4.37 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
8.073	.000	1.09540	.00000	.00000	.11220	.00030	.03390	.10080	.02660
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

(REU041) (23 OCT 74)

ARC11-0141A19 OTS

SRB-OFF MPS-OFF

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT ELV-18 = .000 ELV-08 = .000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = 1.250
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

RUN NO. 136/ 0 RN/L = 4.33 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-8.232	-.006	1.25430	.00000	.00000	.14250	.04800	.02370	.08630	.02810
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 137/ 0 RN/L = 4.32 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.098	-.006	1.25450	.00000	.00000	.12680	.02930	.02310	.07650	.02220
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 141/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.246	.019	1.24850	.00000	.00000	.12040	.01120	.02360	.07360	.02320
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 140/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.243	-4.000	1.24510	.00000	.00000	.12550	-.00480	.02520	.07830	.02150
-.171	.012	1.25330	.00000	.00000	.12000	.01090	.02320	.07220	.02290
-.171	4.025	1.23910	.00000	.00000	.08920	.03400	.02520	.07940	.02360
	GRADIENT	-.00075	.00000	.00000	-.00340	.00423	-.00000	.00014	.00026

PARAMETRIC DATA

PARAMETRIC DATA



DATE 03 MAY 75

TABULATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC11-0141A19 OTS SRB-OFF MPS-OFF

(REU041) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

RUN NO. 142/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA 7.860 BETA -.003
GRADIENT 1.23910 SRBPR .00000 MPSPR .00000 CHE1 CHEO CABO
MACH .00000 .00000 .10820 -.02490 .02820
CABS
CABT .07980 .02590
CABS
CABT .00000 .00000
ELV-1B = .000 ELV-08 = .000
RUDDER = .000 MACH = 1.250
GIMBAL = 1.000

PARAMETRIC DATA

ARC11-0141A19 OTS SRB-OFF MPS-OFF

(REU042) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

RUN NO. 128/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA -4.059 BETA .000
GRADIENT 1.40830 SRBPR .00000 MPSPR .00000 CHE1 CHEO CABO
MACH .00000 .00000 .11540 -.00190 .01440
CABS
CABT .06840 .01880
CABS
CABT .00000 .00000
ELV-1B = .000 ELV-08 = .000
RUDDER = .000 MACH = 1.400
GIMBAL = 1.000

PARAMETRIC DATA

RUN NO. 130/ 0 RN/L = 4.35 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA -.183 BETA -3.997
GRADIENT .012 1.40330 SRBPR .00000 MPSPR .00000 CHE1 CHEO CABO
MACH .00000 .00000 .09560 -.00880 .01990
CABS
CABT .08060 .01940
CABS
CABT .00000 .00000
ELV-1B = .000 ELV-08 = .000
RUDDER = .000 MACH = 1.000
GIMBAL = 1.000

CABS
CABT .06490 .01770
CABS
CABT .08060 .01940
CABS
CABT .00000 .00000
ELV-1B = .000 ELV-08 = .000
RUDDER = .000 MACH = 1.400
GIMBAL = 1.000

RUN NO. 131/ 0 RN/L = 4.27 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA 3.824 BETA .003
GRADIENT 1.40390 SRBPR .00000 MPSPR .00000 CHE1 CHEO CABO
MACH .00000 .00000 .07820 -.01810 .02080
CABS
CABT .03850 .02010
CABS
CABT .00000 .00000
ELV-1B = .000 ELV-08 = .000
RUDDER = .000 MACH = 1.000
GIMBAL = 1.000

CABS
CABT .03850 .02010
CABS
CABT .00000 .00000
ELV-1B = .000 ELV-08 = .000
RUDDER = .000 MACH = 1.000
GIMBAL = 1.000

RUN NO. 132/ 0 RN/L = 4.28 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA 7.809 BETA .003
GRADIENT 1.40220 SRBPR .00000 MPSPR .00000 CHE1 CHEO CABO
MACH .00000 .00000 .05130 -.03260 .02200
CABS
CABT .03870 .02110
CABS
CABT .00000 .00000
ELV-1B = .000 ELV-08 = .000
RUDDER = .000 MACH = 1.000
GIMBAL = 1.000

CABS
CABT .03870 .02110
CABS
CABT .00000 .00000
ELV-1B = .000 ELV-08 = .000
RUDDER = .000 MACH = 1.000
GIMBAL = 1.000

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REFERENCE DATA

SREF	=	2690.0000	SQ.FT.	XMRP	=	976.0000	IN.	XT
LREF	=	1290.3000	IN.	YMRP	=	.0000	IN.	YT
BREF	=	1290.3000	IN.	ZMRP	=	400.0000	IN.	ZT
SCALE	=	.0200						

RUN NO. 168/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

[illegible][illegible]

ALPHA	BETA	MACH	SRBR	WFSR	CH1	CH2	CABO	CABT	CABS
-.342	-.000	.69600	.43.20000	.00000	.05870	.02680	.01910	.08250	.01850
-.357	.012	.85940	.43.20000	.00000	.03680	.02950	.01830	.07490	.01910
-.288	.4.022	.90130	.43.20000	.00000	.00770	.01560	.01820	.08000	.02310
	GRADIENT	.00066	-.00000	.00000	-.00760	-.00162	.00001	.00031	.00057

RUN NO. 159/ 0 RN/L = 4.15 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

RUN NO. 170/ 0 RN/L = 4.18 GRADIENT INTERVAL = -5.00/ 5.00

[illegible]

PARAMETRIC DATA

ELV-1B =	.000	ELV-08 =	.000
RUDDER =	.000	MACH =	.900
GIMBAL =	1.000		



DATE 03 MAY 78

TABULATED SOURCE FORCE DATA - 1A18 (ARC 11-014)

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ARC11-0141A18 OTS SRB-NON MPS-OFF

(REUN44) (23 OCT 74)

REFERENCE DATA

PARAMETRIC DATA

SREF = 2090.0000 SQ.FT. XMRP = 578.0000 IN. XT
LREF = 1890.3000 IN. YMRP = .0000 IN. YT
BREF = 1890.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

ELV-18 = .000 ELV-08 = .000
RUDDER = .000 MACH = 1.100
01MBAL = 1.000

RUN NO. 156/ 0 RN/L = 4.35 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-8.106	.000	1.10370	54.20000	.00000	.10730	.05480	.02370	.06950	.01910
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 157/ 0 RN/L = 4.35 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.038	.000	1.10060	54.20000	.00000	.06870	.05780	.02480	.08510	.02020
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 158/ 0 RN/L = 4.35 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.353	-4.003	1.09140	54.20000	.00000	.11670	.03470	.02680	.09290	.01980
-3.353	.012	1.09850	54.20000	.00000	.08450	.05500	.02580	.08430	.02100
-3.353	4.022	1.10190	54.20000	.00000	.07000	.05850	.02680	.08780	.02320
	GRADIENT	.00131	.00000	.00000	-.00582	.00272	-.00025	-.00062	.00042

RUN NO. 159/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.888	.000	1.09420	54.20000	.00000	.10370	.03380	.02580	.09140	.02250
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 160/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
7.977	.000	1.08480	54.20000	.00000	.10180	.00120	.03220	.09400	.02380
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

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DATE 03 MAY 75

TABULATED SOURCE FORCE DATA - 1A18 (ARC 11-014)

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ARC11-0141A18 OTS SRB-NON MPS-OFF

(RELOADS) (23 OCT 74)

REFERENCE DATA

SRFP = 8000.0000 SQ.FT. XMRP = 978.0000 IN. XT
LRFP = 1200.3000 IN. YMRP = .0000 IN. YT
BRFP = 1200.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

PARAMETRIC DATA

ELV-18 = .000 ELV-08 = .000
RUCKER = .000 MACH = 1.400
Q1M8AL = 1.000

RUN NO. 133/ 0 RV/L = 4.23 GRADIENT INTERVAL = -8.00/ 5.00

ALPHA	BETA	MACH	SRFP	MPSR	CHEI	CHEO	CABO	CABT	CABS
-8.175	.003	1.35940	106.00000	.00000	.12530	.02570	.01420	.06040	.00780
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 134/ 0 RV/L = 4.21 GRADIENT INTERVAL = -8.00/ 5.00

ALPHA	BETA	MACH	SRFP	MPSR	CHEI	CHEO	CABO	CABT	CABS
-4.002	.003	1.40480	106.00000	.00000	.10980	.00210	.01470	.05120	.00710
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 135/ 0 RV/L = 4.21 GRADIENT INTERVAL = -8.00/ 5.00

ALPHA	BETA	MACH	SRFP	MPSR	CHEI	CHEO	CABO	CABT	CABS
-3.348	-4.000	1.40540	106.00000	.00000	.06840	-.01480	.01500	.05390	.00840
-3.368	.018	1.40730	106.00000	.00000	.09280	-.00710	.01450	.04280	.00780
-3.380	4.028	1.40530	106.00000	.00000	.09180	.00820	.01520	.05330	.00980
	GRADIENT	-.00001	.00000	.00000	.00087	.00283	.00002	-.00007	.00042

RUN NO. 136/ 0 RV/L = 4.21 GRADIENT INTERVAL = -8.00/ 5.00

ALPHA	BETA	MACH	SRFP	MPSR	CHEI	CHEO	CABO	CABT	CABS
3.900	.006	1.40750	106.00000	.00000	.07560	-.01680	.01510	.04870	.00850
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 137/ 0 RV/L = 4.21 GRADIENT INTERVAL = -8.00/ 5.00

ALPHA	BETA	MACH	SRFP	MPSR	CHEI	CHEO	CABO	CABT	CABS
7.853	.008	1.40380	106.00000	.00000	.05770	-.03590	.01850	.04910	.00970
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

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DATE 03 MAY 76

TABULATED SOURCE FORCE DATA - 1A18 (ARC 11-014)

(REU047) (23 OCT 74)

SRB-OFF MPS-OFF

ARC11-0141A19 OTS

REFERENCE DATA

SREF = 2880.0000 SQ.FT. XMRP = 878.0000 IN. XT
 LREF = 1280.3000 IN. YMRP = .0000 IN. YT
 BREF = 1280.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 174/ 0 RN/L = 4.21 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.050	-.003	1.40360	.00000	.00000	.03480	-.00080	.02200	.06660	.01910
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 172/ 0 RN/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-1.150	-4.000	1.40600	.00000	.00000	.00720	-.01850	.02190	.06140	.01780
-1.129	.009	1.40920	.00000	.00000	.02080	-.01170	.02120	.05820	.01940
-1.234	4.028	1.40370	.00000	.00000	.02780	.00280	.02270	.06460	.02020
	GRADIENT	-.00029	.00000	.00000	.00257	.00265	.00010	.00040	.00030

RUN NO. 173/ 0 RN/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.867	.009	1.40450	.00000	.00000	.00770	-.02340	.02210	.05550	.02020
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA

SREF = 2880.0000 SQ.FT. XMRP = 978.0000 IN. XT
 LREF = 1280.3000 IN. YMRP = .0000 IN. YT
 BREF = 1280.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 175/ 0 RN/L = 4.21 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.143	-.003	1.40260	106.00000	.00000	.03070	-.00090	.01590	.05060	.00720
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 176/ 0 RN/L = 4.20 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-2.243	-4.003	1.40450	106.00000	.00000	.00690	-.01800	.01590	.05160	.00590
-1.324	.009	1.40470	106.00000	.00000	.01940	-.01110	.01590	.04320	.00778
-4.435	4.025	1.40550	106.00000	.00000	.02360	.00310	.01610	.05160	.00950
	GRADIENT	.00012	.00000	.00000	.00208	.00263	.00002	.00000	.00045

SRB-NOM MPS-OFF

ARC11-0141A19 OTS

(REU048) (23 OCT 74)

PARAMETRIC DATA

ELV-1B = 8.000
 RUDDER = .000
 GIMBAL = 1.000

PARAMETRIC DATA

ELV-1B = 8.000
 RUDDER = .000
 GIMBAL = 1.000



DATE 03 MAY 75

TABULATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC11-0141A19 OTS SRB-NOM MPS-OFF (REU049) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XPRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YPRP = .0000 IN. YT
BREF = 1290.3000 IN. ZPRP = 400.0000 IN. ZT
SCALE = .0200

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = .000
RUDDER = .000 MACH = 1.400
GIMBAL = 1.000

RUN NO. 177/ 0 RV/L = 4.18 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA 4.032 BETA -.006 MACH 1.40550 SRBPR .00000 MPSPR .00000 CHEI .00810 CHEO -.02350 CABO .01840 CABT .04630 CABS .00830
GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

ARC11-0141A19 OTS SRB-OFF MPS-OFF (REU049) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XPRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YPRP = .0000 IN. YT
BREF = 1290.3000 IN. ZPRP = 400.0000 IN. ZT
SCALE = .0200

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = 4.000
RUDDER = .000 MACH = .900
GIMBAL = 1.000

RUN NO. 196/ 0 RV/L = 4.12 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA -4.041 BETA .000 MACH .88810 SRBPR .00000 MPSPR .00000 CHEI .01070 CHEO .01570 CABO .01820 CABT .07840 CABS .01530
GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

RUN NO. 197/ 0 RV/L = 4.14 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA -.198 BETA -4.003 MACH .88300 SRBPR .00000 MPSPR .00000 CHEI .02020 CHEO .01980 CABO .01800 CABT .07810 CABS .01400
-.182 .009 .80840 .00000 .00000 .01010 .01840 .01790 .07180 .01400
-.295 4.022 .90070 .00000 .00000 -.00130 .01590 .01810 .07550 .01940
GRADIENT .00034 .00000 .00000 -.00288 -.00049 .00001 .00000 .00000

RUN NO. 198/ 0 RV/L = 4.15 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA 3.828 BETA -.003 MACH .90390 SRBPR .00000 MPSPR .00000 CHEI .01320 CHEO .01910 CABO .01990 CABT .07280 CABS .01430
GRADIENT .00000 .00000 .00000 .00000 .00000 .00000 .00000 .00000

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INDICATED SOURCE FUTURE DATA - (AIN 11-014)

(REU050) (23 OCT 74)

SRB-OFF MPS-OFF

ARC11-0141A19 OTS

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT ELV-18 = 8.000 ELV-08 = 4.000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = 1.100
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

RUN NO. 180/ 0 RN/L = 4.28 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.017	.003	1.0880	.0000	.0000	.02860	.02780	.02620	.08000	.02610
	GRADIENT	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

RUN NO. 191/ 0 RN/L = 4.28 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.162	-4.000	1.09520	.0000	.0000	.03010	.00840	.03110	.09360	.02430
-.141	.012	1.10870	.0000	.0000	.02290	.02420	.02720	.08370	.02490
-.234	4.025	1.09750	.0000	.0000	.01190	.02730	.02980	.09270	.02560
	GRADIENT	.00029	.0000	.0000	-.00227	.00236	-.00016	-.00011	.00016

RUN NO. 192/ 0 RN/L = 4.28 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.679	.000	1.10340	.0000	.0000	.02680	.00540	.03090	.09030	.02550
	GRADIENT	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

ARC11-0141A19 OTS

(REU051) (23 OCT 74)

SRB-OFF MPS-OFF

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT ELV-18 = 8.000 ELV-08 = 4.000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = 1.250
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

RUN NO. 184/ 0 RN/L = 4.27 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.008	.000	1.25130	.0000	.0000	.03500	.00740	.02370	.07320	.02260
	GRADIENT	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

RUN NO. 185/ 0 RN/L = 4.28 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.138	-4.003	1.24780	.0000	.0000	.03460	-.02400	.02520	.07340	.02140
-.225	.008	1.25540	.0000	.0000	.03330	-.00910	.02430	.06900	.02310
-.252	4.022	1.24890	.0000	.0000	.02840	.00940	.02500	.07370	.02310
	GRADIENT	.00014	.0000	.0000	-.00077	.00416	-.00002	.00004	.00021

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = 4.000
 RUDDER = .000 MACH = 1.250
 GIMBAL = 1.000

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT ELV-18 = 8.000 ELV-08 = 4.000
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT RUDDER = .000 MACH = 1.250
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT GIMBAL = 1.000
 SCALE = .0200

RUN NO. 184/ 0 RN/L = 4.27 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.008	.000	1.25130	.0000	.0000	.03500	.00740	.02370	.07320	.02260
	GRADIENT	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000

RUN NO. 185/ 0 RN/L = 4.28 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-.138	-4.003	1.24780	.0000	.0000	.03460	-.02400	.02520	.07340	.02140
-.225	.008	1.25540	.0000	.0000	.03330	-.00910	.02430	.06900	.02310
-.252	4.022	1.24890	.0000	.0000	.02840	.00940	.02500	.07370	.02310
	GRADIENT	.00014	.0000	.0000	-.00077	.00416	-.00002	.00004	.00021

PARAMETRIC DATA

ELV-18 = 8.000 ELV-08 = 4.000
 RUDDER = .000 MACH = 1.250
 GIMBAL = 1.000



DATE 03 MAY 75

TABULATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

PAGE 37

ARC11-0141A19 OTS SRB-OFF MPS-OFF

(REU051) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XPRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YPRP = .0000 IN. YT
BREF = 1290.3000 IN. ZPRP = 400.0000 IN. ZT
SCALE = .0200

RUN NO. 186/ 0 RN/L = 4.28 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.884	.000	1.40850	.00000	.00000	.02880	-.02880	.02880	.07070	.02410
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-18 = 8.000 ELV-08 = 4.000
RUDDER = .000 MACH = 1.250
GIMBAL = 1.000

PARAMETRIC DATA

ARC11-0141A19 OTS

SRB-OFF MPS-OFF

(REU052) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XPRP = 978.0000 IN. XT
LREF = 1290.3000 IN. YPRP = .0000 IN. YT
BREF = 1290.3000 IN. ZPRP = 400.0000 IN. ZT
SCALE = .0200

RUN NO. 178/ 0 RN/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.990	.000	1.40820	.00000	.00000	.03330	-.01830	.02130	.06450	.01900
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-18 = 8.000 ELV-08 = 4.000
RUDDER = .000 MACH = 1.400
GIMBAL = 1.000

PARAMETRIC DATA

RUN NO. 179/ 0

RN/L = 4.20 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-1.195	-4.003	1.40210	.00000	.00000	.00700	-.03590	.02220	.06180	.01790
-1.198	.009	1.40880	.00000	.00000	.02000	-.02590	.02120	.05920	.01940
-1.199	4.022	1.40240	.00000	.00000	.02770	-.01120	.02280	.06430	.02010
	GRADIENT	.00004	.00000	.00000	.00258	.00308	.00005	.00031	.00027

RUN NO. 180/ 0 RN/L = 4.20 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.980	.000	1.40990	.00000	.00000	.00790	-.03830	.02180	.05500	.02010
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

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(REU053) (23 OCT 74)

SRB-NOM MPS-OFF

ARC11-0141A19 OTS

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 978.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 199/ 0 RN/L = 4.11 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CASO	CABT	CABS
-4.179	-4.003	.89310	43.20000	.00000	.01080	.01580	.01910	.07990	.02040
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 200/ 0 RN/L = 4.13 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CASO	CABT	CABS
-3.339	-3.997	.89500	43.20000	.00000	.02050	.02110	.01910	.08140	.01830
-3.380	.012	.90280	43.20000	.00000	.01020	.01780	.01780	.07370	.01800
-4.111	4.022	.90010	43.20000	.00000	-.00070	.01870	.01820	.07880	.02250
	GRADIENT	.00064	-.00000	.00000	-.00284	-.00053	.00001	-.00032	.00049

RUN NO. 201/ 0 RN/L = 4.14 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CASO	CABT	CABS
3.936	-.006	.80040	43.20000	.00000	.01320	.01830	.01720	.07260	.01880
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ARC11-0141A19 OTS

SRB-NOM MPS-OFF

(REU054) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 978.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 193/ 0 RN/L = 4.28 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CASO	CABT	CABS
-4.149	.000	1.09280	54.20000	.00000	.02450	.02800	.02680	.08440	.02010
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 194/ 0 RN/L = 4.29 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CASO	CABT	CABS
-3.315	-4.003	1.09520	54.20000	.00000	.02540	.00950	.02870	.08730	.01860
-3.387	.006	1.10470	54.20000	.00000	.01800	.02490	.02550	.07850	.02030
-3.288	4.016	1.09910	54.20000	.00000	.00840	.02740	.02740	.08580	.02270
	GRADIENT	.00038	.00000	.00000	-.00212	.00223	-.00016	-.00021	.00051

PARAMETRIC DATA

ELV-IB = 8.000
 ELV-OB = 4.000
 RUDDER = .000
 MACH = .900
 GIMBAL = 1.000

PARAMETRIC DATA

ELV-IB = 8.000
 ELV-OB = 4.000
 RUDDER = .000
 MACH = 1.100
 GIMBAL = 1.000



DATE 03 MAY 78

TABULATED SOURCE FORCE DATA - 1A18 (ARC 11-014)

PAGE 38

ARC11-0141A18 OTS SRS-NOM MPS-OFF

(REU054) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 876.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

RUN NO. 185/ 0 RN/L = 4.30 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRSR	MPSR	CHEI	CHEO	CABO	CABT	CABS
3.915	-.003	1.10630	54.20000	.00000	.02670	.00480	.02880	.08290	.02070
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-18 = 8.000
RUDDER = .000
OIMBAL = 1.000
ELV-08 = 4.000
MACH = 1.100

PARAMETRIC DATA

ARC11-0141A18 OTS SRS-NOM MPS-OFF

(REU055) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 876.0000 IN. XT
LREF = 1290.3000 IN. YMRP = .0000 IN. YT
BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
SCALE = .0200

RUN NO. 187/ 0 RN/L = 4.28 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRSR	MPSR	CHEI	CHEO	CABO	CABT	CABS
-3.981	.000	1.24490	72.00000	.00000	.03570	.00730	.02030	.06520	.01310
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-18 = 8.000
RUDDER = .000
OIMBAL = 1.000
ELV-08 = 4.000
MACH = 1.250

PARAMETRIC DATA

RUN NO. 188/ 0 RN/L = 4.28 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRSR	MPSR	CHEI	CHEO	CABO	CABT	CABS
-3.389	-.000	1.24490	72.00000	.00000	.03370	-.02300	.02120	.06560	.01170
-.309	.012	1.25110	72.00000	.00000	.03090	-.00810	.02020	.06100	.01350
-.300	4.022	1.23840	72.00000	.00000	.02020	.01110	.02110	.06840	.01680
	GRADIENT	-.00081	-.00000	.00000	-.00188	.00425	-.00001	.00010	.00081

ELV-18 = 8.000
RUDDER = .000
OIMBAL = 1.000
ELV-08 = 4.000
MACH = 1.250

CABT .06520 .00000
CABS .01310 .00000

CABT .06560 .01170
CABS .01170 .01350
CABT .06840 .01680
CABS .00010 .00081

RUN NO. 189/ 0 RN/L = 4.29 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRSR	MPSR	CHEI	CHEO	CABO	CABT	CABS
3.986	.003	1.24370	72.00000	.00000	.02610	-.02670	.02850	.08290	.01470
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-18 = 8.000
RUDDER = .000
OIMBAL = 1.000
ELV-08 = 4.000
MACH = 1.250

CABT .08290 .00000
CABS .01470 .00000

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ARC11-0141A19 019 SRB-NOM MPS-OFF

(REU056) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XPRP = 978.0000 IN. XT
 LREF = 1290.3000 IN. YPRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZPRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 181/ 0 RN/L = 4.19 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.071	.000	1.40270	106.00000	.00000	.03040	-.01590	.01570	.05020	.00740
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-18 = 8.000 ELV-08 = 4.000
 RUDDER = .000 MACH = 1.400
 GIMBAL = 1.000

PARAMETRIC DATA

RUN NO. 182/ 0 RN/L = 4.19 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-2.294	-4.000	1.40420	106.00000	.00000	.00850	-.03540	.01570	.05100	.00500
-3.375	.009	1.40110	106.00000	.00000	.01850	-.02500	.01620	.04860	.00790
-4.423	4.028	1.40040	106.00000	.00000	.02390	-.01080	.01610	.05100	.00950
	GRADIENT	-.00047	.00000	.00000	.00217	.00308	.00005	.00000	.00044

RUN NO. 183/ 0 RN/L = 4.19 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
3.834	-.003	1.40030	106.00000	.00000	.00830	-.03630	.01680	.04840	.00790
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XPRP = 978.0000 IN. XT
 LREF = 1290.3000 IN. YPRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZPRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 4/ 0 RN/L = 4.30 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.497	.003	1.23340	72.00000	.00000	.03580	.00990	.03000	.06520	.01330
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

ELV-18 = 8.000 ELV-08 = 4.000
 RUDDER = .000 MACH = 1.250
 GIMBAL = 1.000

PARAMETRIC DATA

RUN NO. 5/ 0 RN/L = 4.28 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.339	-3.897	1.23280	72.00000	.00000	.03620	-.02510	.03170	.06420	.01250
-4.485	.019	1.23610	72.00000	.00000	.03040	-.00670	.02980	.06030	.01360
-4.435	4.031	1.23190	72.00000	.00000	.02530	.00690	.03100	.06380	.01590
	GRADIENT	-.00011	.00000	.00000	-.00138	.00424	-.00009	-.00005	.00042

ARC11-0141A19 019+STRUT SRB-NOM+MPS-NOM+

(REU057) (23 OCT 74)

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DATE 03 MAY 75

TABULATED SOURCE FORCE DATA - 1A19 (ARC 11-014)

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ARC11-0141A19 OTS+STRUT SRB-NOM MPS-OFF

(REU055) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 16/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.080	.012	1.24230	72.00000	.00000	.03690	.00780	.02040	.06590	.01360
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

RUN NO. 17/ 0 RN/L = 4.34 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-3.375	.012	1.25030	72.00000	.00000	.03100	-.00810	.02010	.05950	.01350
-3.333	4.031	1.23650	72.00000	.00000	.02770	.00830	.02250	.06590	.01660
	GRADIENT	-.00343	.00000	.00000	-.00082	.00408	.00060	.00159	.00077

ARC11-0141A19 OTS+STRUT SRB-HI MPS-NOM

(REU060) (23 OCT 74)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 976.0000 IN. XT
 LREF = 1290.3000 IN. YMRP = .0000 IN. YT
 BREF = 1290.3000 IN. ZMRP = 400.0000 IN. ZT
 SCALE = .0200

RUN NO. 21/ 0 RN/L = 4.33 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	MACH	SRBPR	MPSPR	CHEI	CHEO	CABO	CABT	CABS
-4.122	.012	1.24490	117.00000	188.00000	.03180	.00720	.02660	.05480	.00860
	GRADIENT	.00000	.00000	.00000	.00000	.00000	.00000	.00000	.00000

PARAMETRIC DATA

ELV-18 =	8.000	ELV-08 =	4.000
RUDDER =	.000	MACH =	1.250
GIMBAL =	1.000		

PARAMETRIC DATA

ELV-18 =	8.000	ELV-08 =	4.000
RUDDER =	.000	MACH =	1.250
GIMBAL =	1.000		